DOCUMENT RESUME

ED 254 663 CE 040 879

AUTHOR Brown, Sylvia J.
TITLE The Influence of Cooperative Education on First Job after College.
INSTITUTION Northeastern Univ., Boston, Mass. Center for Cooperative Education.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE Oct 84
GRANT NIE-G-83-0032
NOTE 129p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Bachelors Degrees; Business Education; Career Planning; *College Graduates; *Cooperative Education; *Educational Benefits; Educational Research; Education Work Relationship; Engineering Education; Entry Workers; Graduate Surveys; Higher Education; Outcomes of Education; *Program Effectiveness; Socialization; *Technological Advancement; *Vocational Followup

ABSTRACT

A study investigated whether graduates of cooperative education programs, especially those who remain with a former co-op employer, report a greater sense of power in their jobs than other new college hires. Two mechanisms by which cooperative education might lead to this outcome were hypothesized: better organizational socialization and greater perceived relevance of job to career plans. The population studied was college graduates working on their first full-time job since graduation. Data were obtained by mailed questionnaire from 225 employees. Results showed that cooperative education graduates have more realistic expectations regarding their first job after college than do graduates of typical degree programs. Such expectations, which provide evidence of successful early socialization to the company, were also predictive of an important outcome of socialization--commitment to the employing organization. More co-op graduates were concerned about and chose jobs relevant to their career plans. Although co-op status itself was not a significant predictor of employee sense of power, organizational commitment and job relevance were. Data showed cooperative education experience facilitates the transition from student to employee and may serve as a mediating effect to enhance employee sense of power on the job. (Correspondence, instruments, and data are appended.) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED254663

THE INFLUENCE OF COOPERATIVE EDUCATION ON FIRST JOB AFTER COLLEGE

by
Sylvia J. Brown
Cooperative Education Research Center
Northeastern University
Boston, MA 02115

October, 1984

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CE040878

This project was partially supported by grant no. NIE-G-83-0032 of the National Institute of Education.

ABSTRACT

The purpose of this research was to study whether graduates of cooperative education programs, especially those who remain with a former co-op employer, report a greater sense of power in their jobs - as measured by access to resources and participation in decision-making - than other new college hires. Two mechanisms by which cooperative education might lead to these outcomes were hypothesized; (1) better organizational socialization, and (2) greater perceived relevance of job to career plans.

The population studied was college graduates working on their first full-time job since graduation from their baccalaureate degree programs. Only those employees who had been working for 3 years or fewer were studied since it was expected that the more time that passes since graduation, the more likely that factors other than undergraduate experiences influence employee behavior. Data were obtained through a questionnaire mailed to employees. A total response rate of 74 percent was achieved and the final data analyses was based on an eligible sample size of 225.

The results show that cooperative education graduates, particularly but not only those who continue with a former co-op employer, have more realistic expectations regarding their first job after college than do graduates of typical degree programs. Such expectations, which provide evidence of successful early socialization to the company, are also predictive of an important outcome of socialization, i.e., commitment to the employing organization. In addition, the results reveal that more co-op graduates are concerned about and do choose jobs that are relevant to their career plans than do other college graduates. Although co-op status itself was not a significant predictor of employee sense of power, organizational commitment and job relevance were. Hence, the data show that cooperative education experience facilitates the transition from student to employee and may also serve a mediating effect to enhance employee sense of power on the job.

TABLE OF CONTENTS

LIST OF TABLES 1

CHAPTER 1 - THE RESEARCH PROBLEM

Background.....1

Statement of the problem.....9

Research hypothesis and operational definitions.....11

CHAPTER 2 - METHODOLOGY

Sources of data.....14

Data collection.....17

Instrument development.....18

Pilot study.....20

Methods of data analysis.....29

CHAPTER 3 - RESULTS

Collection of study data.....30

Description of the sample.....30

Reliability and validity of scales.....33

Analysis of ordinal data.....34

Testing the research hypothesis.....36

CHAPTER 4 - DISCUSSION AND IMPLICATIONS

Discussion and implications.....42

REFERENCES.....47

APPENDICES.....50

LIST OF TABLES

1. Pilot-Test Reliabilities.....25

2. Means and Standard Deviations for Intermediate and Outcome Variables - Pilot-Test.....25

3. Mean Scores on Intermediate Variables for Each Co-op Group - Pilot-Test.....26

4. Correlations of Intermediate Variables with Access to Resources and Participation - Pilot-Test.....27

5. Means, Standard Deviations and Coefficient Alphas for Scales - Company A.....34

6. Mean Ranks of Co-op Status Groups on Career-Related Outcomes - Company A.....35

7. Mean Ranks for Co-op and Non-Co-op Groups on Career-Related Variables - Company A.....36

8. Intercorrelations Between Intermediate and Outcome Variables and Covariates -Company A.....38

9. Mean and Adjusted Mean Scores for Co-op Status Groups on Intermediate Variables - Company A.....39

10. Stepwise Regression of Employee Power on Expectations, Congruence, Relevance, Commitment and Number of Jobs - Company A.....40

11. Stepwise Regression of Commitment on Resources, Participation, Expectations, Congruence and Relevance - Company A.....41

CHAPTER 1

THE RESEARCH PROBLEM

A major problem facing American education today is its perceived inability to adequately prepare young adults to become productive members of the workforce. Employers say that young workers don't demonstrate traditional work values. Leaders in higher education are aware of this serious concern. The president of the Carnegie Foundation for the Advancement of Teaching, Ernest L. Boyer, recently stated ("Carnegie Fund", 1984) that "Business and industry leaders complain about communication skills and work patterns of graduates" as he described the Foundation's plans for a comprehensive re-examination of the purposes of undergraduate education. Whether or not the American educational system is fully or even partly to blame for these outcomes, it is clear its reputation has suffered.

This report seeks to focus attention on one component of our educational system which past research has shown does succeed in preparing young adults for the workplace. More specifically, this will be a report of the influence of cooperative education on graduates' first job after college. The principal research hypothesis is that participation in cooperative education is positively associated with certain outcomes, to be defined later, which in turn, are positively associated with increased employee power. A substantial body of literature shows that employees with a strong sense of power in their job are more likely to be satisfied and less likely to leave their job.

BACKGROUND

Research in Cooperative Education

Cooperative education is an educational strategy which formally integrates academic study with productive work. It was initiated in 1906 by Herman Schneider, a University of

proportion of seniors who have had co-op experiences express assurance and confidence in their career choice than non-co-op seniors.

Students also choose co-op programs so they can have a better chance to find the job they want after graduation. In a national sample of students, employers and co-op professionals (Wilson, 1981), the most frequently cited learning objectives for co-op programs had to do with developing traits, such as reliability, thoroughness and cooperation, that make a good employee. One national study which compared the experiences of co-op and non-co-op alumni (Brown, 1976) found that significantly more of the co-op alumni felt well-informed about post-graduation job opportunities and highly prepared for their first job. Graduates of co-op programs were more likely to have a better understanding of the workplace, greater certainty about their career choice and more experience in the skills involved in seeking the "right" job. They also have the opportunity to determine - in a non-threatening situation - whether they want to work for a company after graduation. On the average, 40 percent of co-op students continue to work for their former co-op employer after graduation (Brown, 1976; Deane, Frankel and Cohen, 1978). Students who do not continue with a former co-op employer also benefit in that they can learn what type of job and employer would best meet their needs.

Graduates of cooperative education programs continue to benefit after they have become full-time employees. Brown (1976) found that a significantly greater proportion of co-op alumni obtained first jobs after college that related to their undergraduate major and a significantly higher proportion of co-op alumni wanted that first job to relate to their major. Wilson and Lyons (1961) obtained a similar result: a significantly larger proportion of non-co-op graduates, as compared to co-op graduates, reported they "applied very little of knowledge and skills gained in college" in their first job after graduation. In another comparative study of co-op and non-co-op graduates across the country (Wilson, 1976), many more former co-ops, when asked about their current post-college position, reported that they were doing a more difficult job now than when first hired. This study also found that more co-op graduates than typical new college hires reported they had many different assignments on their current job and that their boss often asks their opinion on work related matters. Other research (Arthur D. Little, 1974; Hayes and Travis, 1976) has shown that co-op graduates are promoted more quickly and received raises and promotions more frequently than non-co-op graduates. This evidence suggests that co-op alumni advance in the organization more rapidly than other new college hires.

More recent research has examined the career progress of co-op and non-co-op graduates using a multivariate approach. Gillin, Davie and Beissel (1984) examined the career progress of 297 Australian engineering graduates of both full-time and cooperative degree programs. They found that two significant factors influence the level of initial responsibility an employee has upon entering the workforce: whether the worker had cooperative education and the degree of undergraduate contact with that employer before graduation.

Employer Benefits

The overwhelming majority of employers surveyed in a major national assessment of cooperative education (Deane, Frankel and Cohen, 1978) reported that co-op students perform as well or better than regular employees who have comparable responsibilities. In addition to competently accomplishing a job, co-op students help employers by freeing higher level and higher paid professional full-time workers to perform more complex tasks. Furthermore, co-op employers are impressed with co-ops because they are "...highly motivated students who are almost always very career-oriented." (Rooke, 1984).

The most compelling reason for many employers to participate in cooperative education is the potential to effectively screen, select and recruit students for permanent employment after graduation. (Weinstein and Wilson, 1983). Co-op serves as a trial period of employment without either party having to make a long-term commitment. Both parties have the opportunity to look each other over so as to make a suitable match.

Employers continue to benefit by hiring former co-op students as permanent employees. Yensco (1971) found that both college and industrial personnel believed that co-op graduates are "...more mature at graduation than regular graduates" and are "...immediately employable in productive assignments....with a one to two year experience lead over regular graduates." Over half the employers in a study of co-op employers in the New York area (Ehrlich, 1978) agreed they expect their co-op graduates to move up the career ladder more rapidly than their non-co-op counterparts. Another study of employers across the country (Wilson, 1978) found that former co-ops who become full-time employees are often regarded more highly than full-time employees recruited otherwise. Findings from an extensive case study of the large and long-term co-op program at the Lockheed-Georgia Company (Phillips, 1978) provide some insight into why former co-ops may be more highly regarded or progress more rapidly than other new college hires: "They are well-trained and have exposure to the company that

no other employees are able to get. When they return they adapt to the new job much faster....than the non-co-op graduates."

Summary of Research in Cooperative Education

To summarize, the research suggests that cooperative education affects young adults at three important phases of their lives: (1)as undergraduates, (2) during their transition from student to employee, and (3)as permanent employees. Co-op experience provides students with realistic information about careers and organizations, improves their job related skills and leads to a stronger certainty about career choice. Graduates of co-op programs have greater opportunity to find a job for which they are well-suited than graduates of typical degree programs since they have more contacts for permanent employment and more work experience that is relevant to their career plans. Once co-op graduates become full-time employees, they are more likely than other new college hires to have diverse and challenging assignments, to be involved in their boss' decisions and to receive earlier and more frequent promotions and raises.

From the employer perspective, benefits of cooperative education are also seen as occurring during three stages (Arthur D. Little, 1974) which correspond with the three phases for students identified above: (1) preprofessional employment, (2) selection, orientation and hiring and (3) permanent professional employment. During their terms on co-op, students are perceived by employers as competent, highly motivated and career-oriented employees. In the second stage, co-op helps employers to move young adults into their organizations by providing an effective system to select, train and recruit the most suitable candidates for full-time employment following graduation. As permanent employees, former co-ops are more immediately productive and are viewed with more regard than other new college hires, as evidenced by co-ops' more rapid progress up the company ladder. Employers benefit by hiring former co-ops because they already know the organization and can adapt more quickly to a new job within that company.

Limitations of Research in Cooperative Education

There is clear and consistent evidence that cooperative education provides an effective system for moving young adults into the workplace. However, investigators have not systematically studied <u>how</u> this facilitating system affects behaviors of new college hires. A few studies (Brown, 1976; Wilson, 1978; Yensco, 1971) have raised isolated questions about comparative employee behavior of graduates of co-op and non-co-op programs. This research has offered some

interesting insights e.g., former co-ops have greater input into their boss' decision-making on matters that affect them. However the findings are isolated and without theoretical grounding. Findings about the patterns of promotions and raises of co-ops versus non-co-ops imply that the behavior of employees who were once co-ops is different and somehow superior to that of typical new college hires. Indeed, evidence suggests that employers generally view former co-ops with higher regard than other new employees. Conventional wisdom and anecdotal reporting offered by co-op practitioners consistently indicate that former co-ops are more desirable employees. However, no empirical data exist to support or refute this claim. What has been lacking in the co-op literature is a study of one precisely defined and theoretically based aspect of worker behavior that would logically result from cooperative education experience.

Another limitation of previous research in cooperative education is the implicit assumption that all "co-op" graduates are alike. Some studies have compared co-op graduates from different majors (Brown, 1976; Wilson and Lyons, 1961) and have found some differences in response patterns. However, none of the research which asks co-op graduates about their full-time jobs has explored whether there are differential effects for those alumni who remain with a former co-op employer versus those who do not. Thus, many of the favorable findings reported earlier could be attributed to the approximately 40 percent of the co-ops who remain with a former co-op employer. On the other hand, most of the data from employers is based solely on their experience with former co-ops who have remained with their firm after graduation. It seems clear that a study which is trying to discern the effects of cooperative education participation on full-time work experience of new college hires must take into account the possible influence of remaining with a former co-op employer versus starting anew with another organization.

There is another difficulty in cooperative education research which has sometimes been ignored. The term "cooperative education" has been used to describe a variety of educational strategies which integrate work into the curriculum. However, a traditional co-op program which offers multiple terms of major-related experience could have a very different effect than one which offers one or two terms of work experience designed to enhance a student's personal growth. When studies of "cooperative education" group data from diverse types of co-op programs together, they may not be able to isolate programmatic effects.

A final and very important consideration is that in the past, research in cooperative education has typically not been placed within the context of organizational behavior.

The major reason for this is straightforward. Almost all of the researchers studying cooperative education are either practitioners (i.e., those who counsel and place students) or are educational researchers. These researchers have sought to respond to needs for practical information or to inform educational theory. There is, however, a great deal that can be gained by using organizational theory to explain some of the findings about cooperative education presented above.

This research sought to overcome the above limitations by: (1) studying one precisely defined and theoretically based aspect of work behavior that would logically result from cooperative education, (2) carefully defining "cooperative education", (3) looking for differences between co-op graduates who remain with a co-op employer after graduation versus those who start anew with a different employer, (4) using organizational theory to inform research about cooperative education.

Research in Organizational Behavior

Twenty years ago, Schein (1964) decried the ineffective way that most employers had for "breaking in" their new college graduates. He proposed that a mechanism must be devised for the recent college hire to "...come to terms with his supervisor, ...integrate himself into relevant groups within the organization, and learn the informal rules of the game." Four years later, Schein (1968) used the phrase "organizational socialization" to describe the process by which new employees "learned the ropes" in an organization. More specifically, he defined "organizational socialization" as "...the process of being indoctrinated and trained, the process of being taught what is important in an organization...". Schein proposed that one way that schools can improve this socialization process is by inserting an apprenticeship experience into the curriculum.

It seems clear that cooperative education may be viewed as a system of organizational socialization. Cooperative education is, by definition, (Wilson, 1978b) an educational strategy that "...involves students in productive work as an element of the curriculum." Research has demonstrated that cooperative education facilitates the transition from academia into the workplace. By examining cooperative education as a method of organizational socialization, greater insight may be gained into how cooperative education affects behavior of recent college hires.

There are consistent data that show that the type of socialization process employees experience affects their subsequent attitudes and behaviors on the job (Feldman, 1976; Louis, Posner, and Powell, 1983; Van Maanen, 1978;

Wanous, 1980). According to Van Maanen (1978), the socialization process in a given organization "...represents an identifiable set of events that will make certain behavioral and attitudinal consequences more likely than others." Of particular interest is Feldman's (1976) finding that "...one of the most frequently cited indicators of ineffective socialization is lack of influence" an employee has in his or her job.

For the approximately 40 percent of the employees who remain with a former co-op employer after graduation, cooperative education may be viewed as a mechanism for socializing "new" college hires to the company. It seems reasonable that co-ops can "learn the ropes" and use both formal and informal channels of communication to become effective and functioning members of the organization. As one co-op employer states (Knarr,1984), "When one of our co-op students graduates and agrees to accept an offer of a full-time position, he or she makes that decision with full knowledge of the operation of the corporation." The literature suggests that an important result of this socialization process is that co-op graduates will become employees who feel more influence on the job than their peers who have been socialized in other ways. Indeed, the few isolated research findings on post-co-op employee behavior (Wilson, 1978) are consistent with this possibility.

Research on employee influence or power typically has explored issues of authority or control over others in the organization. Such research would not be particularly relevant here since new employees would not be expected to have much influence over others. However, there is one theory of employee influence or power that is appropriate. Kanter (1978) defines power in an organization as the ability to mobilize resources to get things done. This definition sounds very much like the outcomes ascribed earlier to effective socialization practices.

Looking at Kanter's model more closely, it is clear that her definition of power is closer in meaning to "autonomy" than to domination or control over others. More specifically, empowering people means they (1) participate in decision- making, and (2) have access to the resources they need to do their job. Kanter found that various aspects of the structure of an employee's job can influence that employee's level of power. However, Kanter has not examined whether the means of organizational socialization affects level of employee power.

STATEMENT OF THE RESEARCH PROBLEM

Combining the perspectives from cooperative education and organizational behavior, cooperative education may be viewed as a mechanism for socializing new college hires. The hypothesized outcome of organizational socialization by cooperative education is employees who (1) have greater access to the resources they need to get their job done, and (2) participate more fully in decision-making than other recent college hires. For the approximately forty percent of co-op students who remain with a former co-op employer after graduation it is predicted they will have greater access to the resources they need and more involvement in decision-making that affects their job because they know the organization. As co-op students, they will have had the opportunity to learn the formal and informal network. They will be familiar with the structure of the company and will know the names, roles and the personalities of many of the employees. They will understand the kind of work to be done and will have made a commitment to that line of work. When the co-op student begins to work full-time for a former co-op employer, even if the job tasks and supervisor are new, that individual will have an advantage over another new employee, i.e., an understanding of the organizational milieu. A co-op who choses to work for a former co-op employer is more likely to understand and be committed to that organization's goals and methods than someone just starting out. Finally, it is expected that the more co-op terms an individual had with an employer, the stronger these effects would be.

It is also reasonable to predict that those co-op graduates who do not work for a former co-op employer may still be more powerful than their non-co-op counterparts. As discussed earlier, research has shown that more co-op graduates are certain about and committed to their choice of career than non-co-op graduates. Co-op graduates also express more concern that their first job after college be related to their academic major. These findings suggest that there is something about the cooperative education experience which may help move young adults through their career-decision making process at an earlier point in their post-graduation career than typical college graduates. Studies (Super, 1978; Levinson, 1978; Hall, 1976) of adult career stages have consistently identified a series of stages a person goes through as his or her career develops. In the teens and early twenties, young adults usually go through a time of career exploration followed by a period of trial jobs until they start to get established and settle down. Since more co-op graduates are certain of their career choice, it is reasonable to suspect that fewer co-op graduates will need to spend their first full-time job testing their career choice. It is also likely that an

entry level employee who is certain of a career goal and who believes that goal can be enhanced by getting ahead and performing well in an organization will focus his or her energies on accomplishing necessary tasks to get ahead, i.e., getting the job done. In contrast, an employee who is still exploring a career choice may use the first job after college to test this career choice. Hence, that employee's focus may be on evaluating the job duties rather than moving ahead in the organization. Similarly, an entry-level employee who does feel more sure of his or her career goal but is not sure whether his current employer and job will help him to attain that career goal may focus his attention on getting to know the organization rather than getting ahead in that organization.

Research from the field of organizational behavior provides a different but complimentary perspective for this theoretical relationship. Graen, Orris and Johnson (1973) conducted a study of 62 non-academic university employees during their first twenty weeks of employment. Those newcomers who saw their work as highly relevant to their long term career plans were labeled "high role orientation" subjects and compared with "low role orientation" subjects, i.e., those who saw their work as not relevant to their career plans. The low role orientation group became progressively more inept at accurately perceiving demands from their supervisors and co-workers. High role orientation subjects were more successful at perceiving demands from organizational members and in adapting to these demands. In addition, when there was a high role orientation, employees received more job information and had greater job latitude. The authors concluded that role orientation is a crucial link connecting a member to the organization.

To summarize, the primary purpose of this research was to determine whether graduates of cooperative education programs, especially those who remained with a former co-op employer, report a greater sense of employee power than other new college hires. Based on the literature described above, the following intermediate outcomes of co-op participation were posited as mechanisms by which co-op could lead to enhanced employee power: (1) greater perceived relevance of job to career plans, and (2) better socialization to the employing organization.

To assess whether any intermediate outcomes found to be linked to cooperative education were a result of the unique combination of work and education that co-op provides, data were collected on the amount and kind of other undergraduate work experience each participant had. Since it was unlikely that the amount of post-college work experience would be equal for each graduate, data were also collected to

determine whether amount of time with an employer since graduation affected the outcome variables.

In addition, this research sought to explore whether other factors might affect the hypothesized relationships. Thus, data were gathered on other kinds of organizational socialization experiences employees may have had to assess their relationship with the outcome variables. Participants were also asked for their perceptions of the career-related outcomes that past research had shown differentiated co-op alumni from graduates of other degree programs. These variables were: certainty of career choice, relationship of job after college to undergraduate major and perceived impact of college on interpersonal relationships. If this research confirmed findings from past research, it would provide a stronger basis for subsequent studies to test causal paths in explaining the influence of cooperative education.

Research Hypothesis and Operational Definitions

The primary hypothesis to be tested was:

When the effects of amount of undergraduate work experience are controlled, co-op graduates, particularly those who remain with a former employer, and graduates without co-op experience will be significantly different with regard to (1) degree of job relevance, and (2) level of organizational socialization. These variables will, in turn, be significant predictors of the following two components of employee power: (1) access to resources, and (2) participation in decision-making, controlling for amount of time with the company since graduation.

The variables to be examined in this research are defined below. The operational definitions, i.e., the measures of these variables, will be described in the discussion of instrument development.

Independent Variable

Co-op Status

Cooperative education was defined earlier as "...an educational strategy which integrates productive work into the curriculum." (Wilson, 1978). Although a variety of approaches to cooperative education have evolved over the past seventy years, the most traditional form of co-op alternates a term of academic study with a term of curriculum-related work. A typical baccalaureate graduate would have between three and seven terms of major-related work experiences upon graduation. This research studied graduates of traditional cooperative education programs since these are the people most likely to continue their

employment with a former co-op employer and to be more certain about their career choice (Weinstein, 1980).

For the purposes of this research, the variable "co-op status" has three levels: (1) co-op graduate working for a former co-op employer (2) co-op graduate working for a "new", i.e., non-co-op employer, and (3) graduate with no co-op experience.

Intermediate Variables

Organizational Socialization

Early Expectations

There are different stages to the socialization process. The earliest stage is the provision of accurate information to prospective employees so that the employee can make an informed and suitable job choice. Proponents of cooperative education have long claimed that co-op graduates make better employment decisions, particularly but not solely if they choose to work for a former co-op employer. One way to judge the success of efforts to socialize new recruits to an organization is to measure how realistic the employee's expectations of his job were when he first began to work for the company.

Job Congruence

Another measure of socialization is how good a match is made betweeen the person and the job. Co-op employers, as described earlier, feel that a major advantage to co-op participation is the potential for both employee and company to pre-screen each other to determine if there is a good match. Research in organizational socialization (Feldman, 1976) has shown that the person-job congruence affects perceived influence in defining the work-role. Thus, this aspect of socialization has been linked to both co-op participation and to the outcome variable, participation in decision-making.

Relevance of Job to Career Plans

The second intermediate outcome predicted to result from cooperative education participation is relevance of job to career plans. If co-op graduates are more likely to be certain of their career choice at graduation and more concerned that their first job after college relates to their undergraduate major, then it is probably that they will perceive their current job as being part of a broader career plan.

Outcome Variables

Degree of Access to Resources

Having sufficient access to the resources necessary to do one's job is an essential element of Kanter's definition of power. For this research, the "resources" include information, equipment, supervisor, co-workers, and authority.

Participation in Decision-Making

A second major component of Kanter's definition of power is employee involvement in making decisions that affect them. This study will examine the employee's sense of influence, particularly with his supervisor, regarding job-related decisions.

CHAPTER 2

METHODOLOGY

This research is an ex post facto study of recently employed baccalaureate degree graduates. Data were collected by means of a mailed questionnaire. Although a cross-sectional design cannot be used to ascribe causation, an effort was made to assess relationships and set the stage for a follow-up study which could build on this research and test a causal path.

SOURCES OF DATA

The population of interest was college graduates working on their first full-time job since graduation from their baccalaureate degree programs. Only those employees who had been working for three years or fewer were studied since it was expected that the more time that passes since graduation, the less likely undergraduate experiences influence employee behavior.

The sampling unit was the employing organization, although names of graduates could have been obtained from college alumni offices. The rationale for obtaining the sample from employers was that this would reduce unwanted variance resulting from diverse organizational enivronments. An additional advantage of obtaining the sample from an employer rather than college alumni records is that baccalaureate graduates who were not working (e.g, were in graduate school) would be eliminated from the sampling procedure. Finally, companies were more likely to have accurate addresses than college alumni offices.

In order to keep the variance due to organizational environment to a minimum, the decision was made to try to attain the entire sample from one company. A second company would be sought for the pre-test if the first company could not provide a large enough sample size to encompass pre-testing and the full study. The major criteria for

asking a company to participate in the study were that they be a major employer of co-op students and that the Principal Investigator have a good contact person within the company. In addition, organizations were sought that were major high technology employers who were likely to employ a large number of engineering and business majors. Graduates in these majors are most apt to have participated in a traditional co-op program. Further, forecasts of future employment opportunities (e.g., Occupational Outlook Handbook, 1982) predict that this will be a field of increasingly higher employment in the future. Thus, the findings of this research would have implications for a broad audience.

Four high technology companies known to have large and active co-op programs were contacted and asked to participate in this research. In each case, the Manager of College Relations or Human Resources received a telephone call from the Principal Investigator, who summarized the study and requested permission to forward an explanatory letter and a copy of the pilot-test questionnaire (See Appendix A). Each manager was interested in the project and wanted to explore the potential to participate. After reviewing the questionnaire and considering the research and the implications for their organization, two managers agreed to participate and two did not.

One company gave two reasons for choosing not to participate. First, the company had recently made a major commitment to work on another kind of project involving cooperative education and felt they did not have the time to do both. Second, this company annually conducts its own employee survey and did not wish to burden employees with two surveys. The other company that declined to participate did so because line managers, who were responsible for introducing a major new product in the near future, did not feel this was an appropriate time for employees to be receiving the questionnaire. The Manager of College Relations for this company was, however, very interested in the findings of this research because of the need for data on recent college hires.

Two companies agreed to participate in the study. One company is a major high technology company and the other is a major technical and manufacturing firm. Both of these organizations gave careful and high-level consideration to participation in this research, including consultation with legal departments. Both organizations were assured that individual data would be entirely confidential and that the companies would not be publicly identified. Both companies were asked to provide names and addresses for employees who would have graduated from college within the past three years. Given the start date for this research (October,

1983), this meant graduates from the classes of 1981, 1982 and 1983.

Company A, the technical manufacturing firm, provided work addresses of new college hires for each of the three years and they were able to sort their employee list according to undergraduate institution. This made it possible to assure a sample that included enough graduates of co-op programs to make the data analyses possible. Thirteen colleges were selected based on the following criteria. First, a sample of co-op colleges was chosen that have "traditional" co-op programs with at least four alternating periods of work and education. Then, non-co-op schools were selected that would be comparable to the co-op schools in terms of type of student body and size and location of institution. The intent was to obtain a sample that would include twice as many graduates from co-op colleges as from other colleges so that there would be a large enough sample to compare co-ops who remained with a former co-op employer versus those who did not. A total of 476 names and mailing addresses of baccalaureate college hires for the years 1981, 1982 and 1983 were supplied. This sample included 213 graduates from mandatory co-op programs (i.e, where all students participate in co-op) and 211 graduates from optional co-op programs and 52 graduates from non-co-op programs. Although there was no way to know the exact proportion of co-op alumni from the optional programs, i.e., where co-op is not required, a reasonable guess was that half of the alumni would have had co-op. This meant the sample would include approximately 300 co-op graduates and 150 non-co-op graduates. Given previous research which has shown that approximately 40 percent of co-op graduates work for a former co-op employer after graduation, this suggested a sampling distribution of approximately 150 individuals for each of the three levels of the co-op status variable.

Company B provided a printout of home addresses of new college hires for the years 1981, 1982 and 1983. They could not identify which of the students would have had cooperative education but estimated that up to ten percent of these hires would have been co-op students. A total of 1162 names were received from this company.

The decision was made to use employees from Company A for the full study and those from Company B for the pilot-test. This was done for a number of reasons. More information was available about the number of co-ops in the sample from Company A and, with a good response rate, this size sample would meet requirements for data analyses. In addition, selecting a sample from one company would reduce unwanted variance due to organizational environment.

DATA COLLECTION

Although the sampling unit was the employer, the source of data and the unit of analysis was the employee. Data were obtained through a survey questionnaire mailed to employees. A cover letter described the research, explained how participants' names were obtained and sought their participation. (See Appendix B)

In order to encourage a high response rate, a number of steps were taken in the final study. Some of these steps were taken as a result of the pilot-test findings, which will be described in the next section. The actions taken to foster a high return rate were:

(1) A gift was enclosed as an incentive to participate in this study (Berdie and Anderson, 1974). The gift was a magazine of word puzzles and games, which we hoped would be interesting to the high technology employees being surveyed.

(2) A return addressed post paid envelop was enclosed.

(3) The questionnaire was printed on quality paper in an attractive and clear booklet format.

(4) Each cover letter was individually addressed and each letter was signed by the Principal Investigator.

(5) Participants were told how their names were obtained, were guaranteed confidentiality and were offered results of the study if they completed a questionnaire.

It was hoped that the cover letter and questionnaire would convince the participants of the importance and salience of the research topic and that the above activities would provide further incentive to return their questionnaires.

Even with the most well designed mailed survey, it is typically necessary to follow-up an initial mailing with reminders. In this study, two weeks after the mailing a reminder post card was sent out. Two weeks after that a letter and another copy of the questionnaire and return envelop were mailed to non-responders. These follow-up communications appear in Appendix C.

INSTRUMENT DEVELOPMENT

The questionnaire was designed to be self-administered and closed-ended. Since each item or scale uses a somewhat different set of response options, it was hoped respondents would consider <u>each</u> item individually and thus reduce the likelihood of response sets. Some of the variables, such as co-op status, were measured by straightforward items written for this study, such as "Did you work for your current employer at any point before beginning full-time employment after graduation?" or "What is your age?". These items will not be described in detail since they may be seen by examining a copy of the final questionnaire (see Appendix D).

The intermediate and outcome variables were measured using scales developed by other researchers. These scales are described below including data on their reliability and validity. Assessments of the reliability and validity of these scales for this research will be presented in the section on research results.

Organizational Socialization

Prior to the pilot-test results, organizational socialization was going to be measured using two scales developed by Feldman (1976) to assess stages of organizational socialization. One scale was designed to assess how realistic or accurate expectations of the job were when an employee first began to work for the company (see items 13 - 15). The other was intended to measure the congruence between the needs of the employee and the job (see items 42 - 43). Both were two item scales composed of seven-point Likert items, ranging from "disagree strongly" to "agree strongly". Feldman's data suggested moderate reliability (.62 and .56 respectively, using a Spearman-Brown reliability). Convergent and divergent validity data provided substantial evidence of scale validity.

Relevance of Job to Career Plans

Job relevance was measured using a six item scale developed by Berwald (1983). The scale was used in a series of three studies of the same sample of co-op students, at different times in their employment history. Coefficient alphas computed for his study averaged .91. Although Berwald's sample was of undergraduates on co-op it was anticipated that the same issues of job relevance would be salient for recent college hires.

Each item is measured on a nine-point scale from "1" ("not at all") to "9" ("very much"). Intermediate points are not labeled. The scale is a linear combination with unit weighting of the items. The items comprising the scale appear in the questionnaire as items 44 through 49.

Degree of Access to Resources

The scale that was selected to measure access to resources is Quinn and Staines' (1979) Adequacy of Resources scale. Adequacy of resources "...received in order to perform well at his or her job" is one of six facets that Quinn and Staines identified in their research on job satisfaction. Quinn and Staines observed that this aspect of job satisfaction had been largely ignored in previous research. Their scale seemed most appropriate for this study since their definition of adequacy of resources was virtually identical to Kanter's definition of power.

The scale was originally devised and tested in 1969 and was then revised in 1973. The six facets were determined through factor analysis. An internal consistency coefficient of .88 was reported for this scale (Quinn and Staines, 1977). There is also evidence on the validity of the scale for the sample in this research. First, as mentioned above, the definition of resource adequacy by Quinn and Staines corresponds closely with Kanter's model. Second, the scale was designed to be applicable to all levels and types of employees. Demographic data presented in their research findings (1979) show that college graduates are well represented in their studies. Thus, the scale should be appropriate to this research sample.

As another way to examine the validity of the scale for this study, a question was asked to determine an employee's perception of the adequacy of his or her resources. More specifically, a respondent's score on the following item was correlated with his or her score on the Adequacy of Resources scale: "I feel I have the resources I need to effectively accomplish my job." The item was scored on a five- point scale from "strongly disagree" to "strongly agree".

The eleven items which make up the Adequacy of Resources scale appear as questions 25 - 35 on the Work Experience Questionnaire. Each item is rated on a four-point scale: "1" = "not at all true", "2" = "a little true", "3" = "moderately true" and "4" = "very true".

Participation in Decision-Making

This variable was measured by a scale developed by Vroom (1960) to assess the amount of influence a person perceives him or herself to possess in one's job. It consists of four items with a point-five response scale ranging from "1" = "never true" to "5" to "always true". Intermediate points on the scale are not labeled. The items that make up Vroom's scale appear as items 36 - 39 in the questionnaire.

The scale has been used, with minor modifications, in a number of studies (Cook, et. al., 1981; Jackson, 1983) and reported coefficient alphas have averaged about .80. As was the case with the measure of access to resources, this scale has also been used with a variety of types of employees. In addition, the concept being tapped by this measure parallels Kanter's definition of power. Validity for this research was assessed by correlating the score on this scale with the score on the Adequacy of Resources scale. Kanter's model suggests they are measuring different but related components of the same construct. Thus, a correlation between scores on these two scales should reflect this relationship.

PILOT STUDY

Before the questionnaire was pilot-tested, a considerable amount of time was spent in identifying or developing the scales and items described above. Once the research staff was reasonably satisfied with the questionnaire, reaction was sought from researchers in education and organizational behavior. In addition, volunteers who were recent college graduates took the questionnaire and their response pattern and reaction to the questionnaire were observed. Thus, the instrument used in the pilot test had already been modified a number of times.

The research design was pilot-tested with a sample of 400 recent college graduates. Although the final study design called for sampling graduates from the classes of 1981, 1982 and 1983, the pilot study selected a sample from the class of 1983 only. If differences could not be found in this group of recent college graduates, when the effects of co-op experience were most likely to be salient, then the research premises would require serious re-examination.

As discussed earlier, Company B was chosen to provide the pilot test data. A sample of 200 college hires from the class of 1983 was randomly selected to receive the questionnaire. Since Company B was unable to identify which of these employees had co-op experience, a second sample of 200 names of 1983 graduates was obtained from a major cooperative education institution. This was done to ensure

enough pilot test data from both co-op and non-co-op alumni. Names of 100 engineering graduates and 100 business graduates were randomly selected to participate in the pilot test. Graduates from these majors were chosen as the ones most likely to be employed by the high technology Company B.

The pilot test simulated the final study as closely as possible. There were two differences in the mailing packet. All pilot test participants were asked to complete a brief critique form on the questionnaire and mailing. That form is attached as Appendix E. In addition, half of the pilot test participants were randomly selected to receive a gift incentive. The intent was to determine whether enclosing a gift increased the response rate.

A major purpose of the pilot test was to provide data to judge the research instrument. Toward this end, data collected from the pilot test sample were analyzed to assess the reliability of scales and whether there was sufficient variance to make comparisons among the different co-op status groups. The pilot test was also used to assess return rates and follow-up procedures.

Pilot test mailing packets were sent out on March 5, 1984. Follow-up postcards were sent on March 22 to the approximately 250 people who had not responded to the mailing. Given time and cost constraints, a second follow-up was not conducted since there was a sufficient number of cases (n=165) to conduct the pilot-test data analyses. Of the 400 questionnaires that were sent out, 13 were not deliverable because of address problems, e.g.addressee unknown, not forwardable. The final return rate for the pre-test was 46.5 percent (180/387).

Although 180 questionnaires were returned, only 115 were appropriate for the study. One major reason for ineligibility was that the respondent was not a typical recent college graduate, i.e., he or she graduated from a part-time evening degree program or received a Master's rather than a Bachelor's degree in 1983 and was thus older amd probably had more work experience than the typical new college hire. The second major reason for being disqualified from the study was that employees were no longer working for their first employer after college.

The pilot-test analysis consisted of two major components. The first was a summary and analysis of the responses to the critique form. Virtually everyone who completed a questionnaire also filled out a critique form (n=161). The exact responses to the critique form appear in Appendix F. The data from each of the items in the critique form are summarized below.

Summary of Responses to Critique Form

About how long did it take you to fill out the questionnaire?

The mean time for completing the questionnaire was 11.9 (n=161) and the most frequently given time was 10 minutes (n=87). The shortest amount of time for completion was 5 minutes and the longest was 30 minutes. The finding about average time to complete the questionnaire was given in the cover letter for the full study to provide participants with a realistic estimate of the time it would take them to complete the questionnaire.

If you had any kind of problem answering any of the questions (e.g. question was unclear) please tell us the question number(s) and the problem(s) you had.

More than half of the respondents did not report any problems with answering the questionnaire. Of those who did comment, the majority of the problems occurred with the question on "learning the ropes" which was adopted from Louis, Posner and Powell (1983). That item asked how helpful different socialization practices were in "learning the ropes" in one's company. The major problem was that the respondents, whose average age was 23, did not understand some of the terms used, e.g., "mentor/sponsor" or found some categories of socialization agents to be ambiguous, e.g., "new recruits" v.s. "peers". They also suggested the addition of a "not applicable" option for this item, since there is variation in the types of socialization approaches from one company to another.

Another reported problem in answering questions was that some of the respondents had two baccalaureate degrees or were older workers who had just recently received their undergraduate degrees. They found that many of the questions were not appropriate for them and indeed, the research was designed to study typical college graduates who are new to the workforce.

Which instructions confused you?

Most respondents either left this section blank or said "none". Since those comments which were given were basically idiosyncratic, they are listed in Appendix F but are not described here.

Is the questionnaire easy to fill out?

Almost all (96%) of the respondents answered "yes" to this question. Two people stated that since they had gone on for a Master's degree before going to work full-time,

some of the questions were inappropriate and thus difficult to answer.

Did the cover letter make you want to fill out the questionnaire?

Over half (63%) of the people responded "yes" to this question. Many people offered reasons why the cover letter made them want to fill out the questionnaire. Some just said "good job" but others stated they liked the personal or informal or sincere tone of the letter. Others said they felt the research topic was important.

Seventeen people (11%) said that "no" the cover lettter did not make them want to complete a questionnaire. A few people in this group said they did not even read the letter and filled out the questionnaire because they "just wanted to help out". Two individuals suggested the letter should better explain how students will be helped to make the transition into the workplace as a result of the research. Another person suggested including an offer to send participants the results of the study. Two respondents said they should be told how their names were obtained for the sample. Two people were rather strongly opposed to the use of the phrase "unsung heroes" which was used in the cover letter to thank those who cooperate in research studies.

The rest of the respondents either did not comment or made neutral statements, such as "There's nothing you can say - some people just won't fill any out."

Was there anything special that made you want to or not want to fill out the questionnaire?

Just over half (58%) of the respondents cited specfic reasons they filled out the questionnaire. The major reason was the desire to help students make the transition into the workplace. One person said "Anything that helps students make the transition is worthwhile. Universities do not do the job well." Another stated he wanted "...students to realize the importance of on-the-job experience in the 'real' world, not just academia." A number of the co-op graduates said their positive experience with cooperative education encouraged them to respond so that others could benefit from this form of higher education.

A second set of reasons for responding had to do with the survey design. For example, a number of people commented favorably on the ease of response, i.e., it was an "easy" questionnaire to complete and return. Specific statements included "written for fast completion", "not too lengthy - no essays", "takes only 15 minutes" and "postage paid envelop". Others who received the free magazine said

the gift did favorably influence their decision to respond. Additional comments ranged from "you people sounded sincere" to "nice paper". Interestingly, a number of people responded because they have empathy for people doing surveys, e.g., "Understand the work involved in developing questionnaires - thus, fill them out if they'll help."

Did the gift make you more inclined to respond to our questionnaire?

The members of the sample who received the magazine as an incentive to participate also received a critique form which asked this question. Of the 99 respondents, 60 (61%) said "no", the gift did not make them more inclined to return the questionnaire. The few comments these people wrote in ranged from "threw it out" to "but it is a nice idea". Twenty-four people reported that the gift did make them more inclined to complete the survey. Two commented the gift gave them a sense of obligation to respond. Five other respondents who did not say "yes" or "no" made the following statements: "not really, but it didn't hurt either"; "a little"; "it was a nice gesture"; "maybe"; "more yes than no".

Please give us any other suggestions or comments that would improve the questionnaire.

The most frequent suggestion (n=6) was that the results of the study should be offered to those who complete the questionnaire. The rest of the 42 ideas for improving the questionnaire were unique to the person making the suggestion.

Analysis of Pilot Test Data

In addition to findings based on the critique form analysis, questionnaire data for the 115 persons who were on their first job after college were analyzed. Simple frequency data is included in Appendix G. Reliability data for each of the scales in this research are reported below in Table 1. Reliability levels were found to be acceptable for each scale except Early Expectations.

Table 1

Pilot-Test Reliabilities

Scale	Coefficient Alpha	Number of Items
Expectations	.53	2
Congruence	.71	2
Relevance	.89	6
Resources	.86	11
Participation	.83	4

Additional data analysis revealed that there was sufficient variation in scale scores to be sensitive to any significant differences which might exist between graduates of co-op and non-co-op college programs. Table 2 shows the mean scores and standard deviations for each of the variables that were hypothesized to be related to co-op participation.

Table 2

Means and Standard Deviations for Intermediate and Outcome Variables - Pilot-Test

Variables (n=110)	Mean	Standard Deviation
Expectations	3.33	.85
Congruence	3.54	1.05
Relevance	7.13	1.63
Resources	3.33	.49
Participation	3.90	.68

Table 4

Correlations of Intermediate Variables with Access to Resources and Participation Pilot-Test

n=104	Expectations	Congruence	Relevance
Resources	.26**	.27**	.31**
Participation	.22*	.27**	.32**

*p<.05
**p<.01

Time limitations defined the extent of the pilot test data analysis. However, the above analyses, while by no means conclusive, provided evidence to support at least some of the hypothesized relationships. They also suggested changes to be made to the study design, which will be described in the following section.

Changes Made As a Result of the Pilot-Test

Cover Letter

A paragraph was added to tell participants how their names were obtained and some of the wording was modifed to emphasize the importance of the study results for helping recent college graduates make the transition to full-time employee.

Questionnaire

The most significant change resulting from the pilot-test findings was the addition of or modification to items on the questionnaire. Minor changes in wording to clarify responses are not described but important modifications are described below. A major concern was the reliability of the two measures of organizational socialization. In an attempt to increase the variance in response to the items comprising the scales, the scale was extended from a 5-point Likert scale to a 7-point scale. An item was also added to the early expectations scale. The intent was to strengthen these measures without changing the substance since they were clearly relevant to the research

goals.

However, since the concept of examining cooperative education as a means of organizational socialization was central to this research, the decision was made to add another measure of socialization that was expected to be a strong predictor of employee power and that would be a logical outcome of co-op participation. The measure of socialization that was selected was Porter and Smith's (1970) Organizational Commitment Questionnaire(OCQ). Commitment to an organization is a signpost of successful socialization (Schein, 1978; Wanous, 1980). This measure complements the other measures which assess earlier stages of organizational socialization. The scale has been described (Cook, et. al., 1981) as assessing the "...strength of an individual's identification with and involvement in a particular organization." Reliability data (Mowday, Steers and Porter, 1979) from eight studies reveal coefficient alphas ranging from .82 to .93, with a median of .90. Factor analyses and item analyses support the conclusion that items are measuring a single construct. Favorable evidence has also been presented on convergent, discriminant and predictive validity for this scale. For instance, one measure of convergent validity was employees' intention to remain with the company. The results from five studies of this measure ranged from moderate to strong relationship between OCQ score and expressed intention to remain with the company. The OCQ, in either its long or short form, has been administered to 2563 employees working in a wide variety of jobs and work settings, representing a reasonable sample of the working population. Further, the scale has been used with recent college graduates. Hence, it seemed appropriate for the sample to be studied here. The nine items on the shortened version of this scale - used here to decrease respondent burden - appear as items 16 - 24 on the Work Experience Questionnaire. This form does not include six negatively worded items which appear on the long form but is an acceptable substitute where questionnaire length is a concern, i.e., the internal consistency is generally equal to that of the full scale. An individual's score on the scale is the mean score of all nine items. Scores range from 1 to 7; the higher the score, the greater the organizational commitment.

The question asking how employees "learned the ropes" in their current company was modifed so that the terms "new recruits" and "mentor/sponsor" were eliminated and a "not applicable" option was added. This change was made so that a clearer sense of means of socialization would be obtained.

Mailing Package

As a result of the pilot test, all study participants received a gift as an incentive to return the questionnaire. Even though the difference in return rate for those who received the gift was not significantly different ($\chi^2=2.33$, $p>.05$), a greater proportion of those who received the incentive did return questionnaires. In addition, over 35 respondents, or almost 20 percent of the respondents, indicated on the critique form that the incentive influenced them positively. Thus, the potential benefit of a higher return rate justified continued use of the incentive.

METHODS OF DATA ANALYSIS

Two levels of data were collected and two kinds of analysis were conducted. To test the research hypothesis, all of the dependent variables or covariates were treated as interval level data. These included measures of time (e.g., weeks on the job, months with employer) as well as scales (e.g, organizational commitment, early expectations). The scales were treated as interval since they were found to be reliable and scores were continuous measures. All other data were treated as ordinal or nominal level data and were used to describe and better understand the sample.

To describe the research sample, frequency data were calculated. In addition, the three co-op status groups were compared, using the Kruskal-Wallis analysis of variance for ordinal data, on their ranking of the career-related variables and the helpfulness of different means of organizational socialization. To test the research hypothesis, two kinds of analysis were conducted. Multivariate analysis of covariance was done to determine whether the co-op status groups were significantly different on the intermediate variables, controlling for amount of prior work experience at the current employer. Multivariate analysis of variance also was done to discover whether the three co-op groups differed on the outcome variables. Stepwise multiple regression was conducted to determine which of the intermediate variables were significant predictors of employee sense of power.

CHAPTER 3

RESULTS

COLLECTION OF STUDY DATA

On May 11th, the first study participants were sent questionnaires. A total of 447 questionnaires were mailed to employees in Company A. The first follow-up postcards were mailed May 30. A second follow-up was mailed June 18. This included a cover letter and another copy of the questionnaire and return envelop. A total of 417 of the questionnaires were deliverable and of these, 315 responses were received yielding a response rate of 75.5 percent.

Before the data collection from Company A had been completed, the Project Officer from N.I.E. encouraged a second mailing to employees in Company B to try to assure a large enough sample size to conduct the desired multivariate analyses. Mailings to the second company were sent out June 22. Follow-up postcards were mailed on July 12 and the second follow-up was done on August 1. Of the 300 questionnaires that were mailed, 283 were deliverable and 192 were completed and returned, a response rate of 68 percent.

DESCRIPTION OF THE SAMPLE

Although 315 responses were received from Company A and 192 from Company B, not all responses were appropriate for this study. Some of the graduates were not on their first job after college and others had graduated before 1981. Once the samples were refined to include only the population of interest for this research, recent college graduates on their first job after college, the sample size for Company A was 225 and for Company B was 140. All subsequent analyses are based on these sample sizes.

The next step was to compare the characteristics of the samples from Company A and Company B to determine whether it would be appropriate to combine the data from the two companies for the data analyses. About half of the Company A respondents were graduates of cooperative - education programs whereas only 12 percent of the Company B graduates had co-op experience. In addition, Company A employees had more variety in job assignments, which is consistent with the fact that Company A has a training program whereby employees rotate through various positions at 6 month intervals. In contrast, Company B employees were more likely to have formal on-site orientations and off-site residential training sessions. Further, comparison of mean scores on the scales used to assess intervening variables and outcomes variables (see Appendix H) revealed significantly different mean scores on job relevance (t=4.25, p,.001), early expectations (t=1.2, p<.001) and congruence of job and person (t=1.26, p<.001). Since it is possible these differences occurred because of the much higher proportion of co-op alumni in Company A, t-test analyses were repeated comparing non-co-op alumni only. The difference in mean scores on job relevance (t=4.68, p<.001) and job congruence (t=3.82, p<.001) were still significant although the difference between the two companies on early expectations was not.

Given the differences in proportion of co-ops, types of training given to new employees and responses to the research scales, it was decided that it was inappropriate to combine the data from the two companies. Instead, data from Company A were used for the primary analyses since there was a satisfactory sample size (n=225) which included an approximately equal proportion of co-op and non-co-op alumni. Data from Company B were analyzed separately using the same techniques as for Company A. The Company B data were used to provide evidence as to the generalizability of findings across different organizations.

Before examining the relationships among the variables, frequency data were studied to gain an understanding of the sample. These data are presented in Appendix I separately for Companies A and B but only the data on Company A are summarized here. The sample was roughly distributed among the classes of 1983, 1982 and 1981, thus making it possible to examine the effect of amount of post--graduation work experience on the outcome variables. As mentioned above, about half the Company A respondents were co-op alumni. A little less than half of these co-op alumni (44%) were currently working for a former co-op employer. Although internship and Federal Work/Study participation were modest, the majority of students (74%) reported having work experience that was not sponsored by the college, e.g., summmer jobs and part-time jobs. This made it possible to

assess whether outcomes resulted from number of terms of work experience or were due to the unique combination of work and education that occurs in cooperative education. About half of the co-op alumni also had other work experience while in college.

Although the number of terms of co-op experience ranged from 1 to 9, the mean number of terms was 5.4 and the median was 6. In contrast, internships were typically 1 or 2 terms (X=1.7). The median for other than college-sponsored work experience was 3 terms and the mean was 4.5 terms. Students reported as few as 1 and as many as 22 terms of work experience not sponsored by the college. The median number of Work/Study terms was 3 and the mean was 4.2, with a range between 1 and 9 terms.

The next set of items asked for graduates' perceptions of the effect of their undergraduate experience on career-related outcomes. Although few respondents selected the most extreme "negative" point, the responses were spread over the other four response options. The variance in responses was judged to be sufficient to detect if there were differences among the co-op status groups.

Graduates were then asked whether they had worked for their current employer before beginning full-time employment after graduation. Almost one third (30%) of the sample had prior work experience with their current employer. Of these 68 people, 49 had worked there on a co-op job, 4 had internship experience and 13 had work experience that was not sponsored by the college. Two respondents did not indicate what kind of work experience they had. None of the Work/Study positions were with the current employer. This is to be expected since Work/Study jobs by definition are found in the non-profit sector and Company A is a for profit organization. The mean amount of co-op experience with a current employer was 4.4 terms whereas the mean number of internships was 1.25 and the mean number of jobs not sponsored by the college was 2.38.

Fifty-five co-op alumni who are not working for a former co-op employer explained why they chose to work for a new organization. Their exact explanations are presented in Appendix J. To summarize, the reason most frequently cited was that there were better opportunities for growth and advancement in Company A than with their former co-op employer. Seven people specifically mentioned the company's training program as their reason for selecting this company. The second most frequently cited reason for choosing a new employer was to find a job that was more consistent with their interests and goals. Other reasons, such as location and pay/benefits, were also determining factors for some respondents. For nine people, no job was available with

their former co-op employer.

The distribution of time worked at Company A since graduation is essentially tri-modal, with peaks at 12, 24 and 36 months. This, of course, coincides with the fact that the sample was selected to include graduates from the classes of 1983, 1982 and 1981.

Graduates felt they were most helped in learning the ropes in their current company by senior co-workers and, where applicable, undergraduate work experience. The least helpful means of learning the ropes was formal on-site orientation.

The Manager of Professional Recruiting and University Relations had described Company A's training program and indicated that graduates of both co-op and traditional degree programs were eligible to participate in the program. He expected about half the participants in this research to be in that training program, which would mean 6 month rotations in different jobs throughout the company. Data gathered in this study revealed that one fourth of the sample had only one job since joining Company A but the rest had rotated through a number of different assignments. The median number of assignments was 3 and the mean was 2.89.

Two demographic questions were asked of participants. Seventy-nine percent of the sample were males and 21 percent were females. Most respondents were between the ages of 22 and 26. Seven respondents were 27 years old. Anyone who was older was eliminated from the study since they were not typical college graduates on their first job after college. The seven who are 27 years old were retained since a 1981 graduate of a 5-year co-op program could be that old and still meet the sample requirements.

RELIABILITY AND VALIDITY OF SCALES

Responses to individual items on the six scales that were used in this research appear in Appendix I. Items are not discussed here since the intent of this research was to use the scales as discrete entities. Mean scale scores, standard deviations and coefficient alphas appear in Table 5. The reliability data are consistent with the published findings on these scales as well as with the pre-test results. In addition, the coefficient alphas calculated for the sample from Company B (see Appendix K) were comparable.

In addition to assessments of reliability, efforts were made to judge the validity of the measures for this research. As discussed earlier, measures were selected that were thought to be content valid and consistent with the theoretical basis of this study. The scales had been used

with samples that were comparable to the ones in this research. Since the two components of Kanter's model of power were measured by two scales not previously used for this purpose, a correlation coefficient was computed to determine whether they were indeed significantly related as Kanter's model would predict. The correlation coefficient for the scales "Access to Resources" and "Participation in Decision-Making" was .50 for Company A and it was .57 for Company B. Participants were also asked to indicate their degree of agreement or disagreement with the following statement "I have access to the resources I need (e.g., information, equipment, staff support) to effectively accomplish my job." The response to this statement was correlated with the score on the "Access to Resources" scale. This correlation was .57. These data provide some evidence that the scales were measuring what they were intended to measure.

Table 5

Means, Standard Deviations and Coefficient Alphas for Scales - Company A

Scale	Number of Items	Mean	Standard Deviation	Coeff. Alpha
Expectations	3	4.27	1.30	.71
Congruence	2	3.79	1.40	.62
Commitment	9	4.93	1.11	.91
Relevance	6	6.14	1.47	.83
Resources	11	3.06	.53	.87
Participation	4	3.69	.72	.84

ANALYSIS OF ORDINAL DATA

In order to examine whether co-op status was associated with perceptions of career-related outcomes of college, the Kruskal-Wallis one-way analysis of variance for ranks was applied to the data. The results of this analysis (see Table 6) did not reveal any significant differences among the three co-op status groups.

Table 6

Mean Ranks of Co-op Status Groups on Career-Related Outcomes - Company A

Item	Co-op Status 1 (n=49)	2 (n=63)	3 (n=111)
Get along with others	105.66	119.43	110.58
Certainty of career choice at graduation	126.19	112.08	105.69
Certainty of career choice "now"	121.76	113.29	105.91
Use skills and training	123.98	112.70	105.25
Job relates to major	124.67	106.74	109.39
Importance that job relates to college major	116.35	122.81	103.95

Note. Co-op status: "1"=co-op, stayed with former employer, "2"=co-op, now with new employer, "3"=no co-op experience

Although differences among the three co-op status groups were not significant, on the measures of career certainty, use of skills and training on the job, and degree that current job relates to undergraduate major, the mean ranks were in the predicted direction. Since these questions were included largely because past research found significant differences between co-op and non-co-op groups on these variables, the Mann-Whitney U was calculated to make the two group comparison. This analysis (see Table 7) did reveal ($U = 5322$, $p=.05$) that it was more important for alumni of co-op programs to find a job after college that related to their undergraduate major than it was for other graduates. Other differences were in the predicted direction but were not significant.

Table 7

Mean Rank for Co-op and Non-Co-op Groups on Career-Related Variables - Company A

Item	Co-op (n=112)	Non-Co-op (n=111)
Get along with others	113.41	110.58
Certainty of career choice at graduation	118.25	105.69
Certainty of career choice "now"	116.99	105.91
Use skills and training	117.63	105.25
Job relates to major	114.58	109.39
Important that job relates to major	119.98 *	103.95 *

* p=.05

The three co-op status groups were compared on their rating of the helpfulness of different means of "learning the ropes" in their company. Undergraduate work experience was significantly more helpful (based on a Kruskal-Wallis one way analysis of variance, $X2=13.96$, $p<.001$) for the co-op graduate, especially but not only those alumni who worked for a former co-op employer. Otherwise, the co-op status groups were not significantly different as to how they ranked the helpfulness of the different means of socialization.

TESTING THE RESEARCH HYPOTHESIS

Prior to conducting the analyses to test the research hypotheses, Pearson correlations were calculated to better understand the relationships among the intervening variables, the outcome variables and the suspected covariates. The results (see Table 8) show that each of the

four intervening variables was significantly and positively related to the two outcome variables and to each other. Undergraduate work experience was expected to be positively correlated with the intervening variables. Total number of weeks of undergraduate work experience was significantly but modestly related to the measure of job relevance. Total number of weeks of undergraduate work experience with one's current employer was found to be moderately related to early expectations, i.e., the longer one has worked with an employer before graduation, the more realistic that person's expectations of the job will be. There were no other significant relationships with amount of undergraduate work experience.

It was also hypothesized that the amount of time working for a current employer would be positively related to employees' experience of power. Instead, there was a significant though modest negative relationship between length of time with the company and perceived access to resources. The relationship between the number of different jobs an employee had in Company A and perception of power was also examined. Number of jobs was significantly, though again modestly, related to both aspects of power with a negative relationship to access to resources and a positive one to participation in decision-making.

Inter-correlations among these same variables for Company B showed a similar pattern (see Appendix J). However, the relationship between early expectations and other intervening variables was weaker as was the relationship between number of positions within the company and the outcome variables. These findings may be due to the fact that Company B had few co-op alumni and significantly lower scores on the early expectations variable than did Company A employees. In addition, Company B did not rotate employees through different training positions as did Company A.

Since the intermediate variables were found to be interrelated, a multivariate analysis of covariance approach was used. Of the two hypothesized covariates, amount of undergraduate work experience with a current employer was related strongly enough to a dependent variable - early expectations - to be included as a covariate. Thus, a multivariate analyses of covariance (MANCOVA) was run using co-op status as a three level factor, the four hypothesized intervening variables as dependent variables and amount of undergraduate work experience with current employer as a covariate. The results of the analysis, $F=2.31$, $p<.05$, reveal the three groups are significantly different.

To isolate the source(s) of significance, results of univariate analyses of variance were then examined. The mean scores for the co-op status groups were found to be significantly different, $F(2,218)=6.17$, $p<.01$, on the measure of early expectations. Mean scores and means scores adjusted for the covariate for the three co-op status groups are presented in Table 9. These scores, adjusted for amount of undergraduate work experience with current employer, show that both groups of co-op graduates report more realistic early expectations than do graduates of non-co-op programs. In addition, means scores on job relevance are in the predicted direction though the difference was not significantly different, $F(2,218)=2.33$, $p=.10$.

Table 9

Mean and Adjusted Mean Scores for Co-op Status Groups on Intermediate Variables - Company A

Intermediate variables n=222	Mean Score			Adjusted Mean Score		
	Co-op Status					
	1	2	3	1	2	3
Expectations	5.12	4.38	3.82	4.54	4.58	3.96
Congruence	4.39	4.23	4.16	4.19	4.30	4.21
Relevance	6.49	6.16	5.96	6.82	6.05	5.88
Commitment	5.13	4.94	4.85	5.11	4.95	4.85

A multivariate analysis of variance comparing scores on the three co-op status groups with the outcome variables showed that co-op status groups did not differ significantly on their scores for either access to resources or participation in decision-making ($F = 0.41$, $p>.05$)

The last planned step in the analysis was to determine whether the intermediate variables predicted employee sense of power. A stepwise regression was done for each of the two outcome variables. Predictor variables included the four intervening variables as well as time worked with the company and number of different positions held within the company. The most significant predictor of access to resources within the company was organizational commitment

and the second most significant predictor was job relevance (See Table 10). The only other predictor entered into the regression equation was number of different jobs, which had a negative relationship to access to resources. A tolerance level of .05 was used to limit the variables entered into the regression equation. This equation accounted for 29 percent of the variance in the dependent variable.

The most significant predictor of participation in decision-making was also organizational commitment. Almost as important a predictor was job congruence. In this equation, number of different jobs was a positive predictor of influence in decision-making. These three variables accounted for 23 percent of the variance in the dependent variable.

Table 10

Stepwise Regression of Employee Power on Expectations, Congruence, Relevance, Commitment and Number of Jobs - Company A

Intermediate Variables	Dependent Variables	
	Resources	Participation
Expectations	--	--
Congruence	--	.26
Relevance	.23	--
Commitment	.37	.28
Number of jobs	-.15	.14

Note. Only significant beta weights are reported.

The same stepwise regression analysis was repeated for the Company B sample. For both components of employee power, the most significant predictor was organizational commitment, with a beta weight of .44 for access to resources and .43 for participation in decision-making. The only other significant predictor was job congruence which added to the prediction of access to resources. The proportion of variance accounted for was 33 percent for access to resources and 19 percent for participation in

decision-making. These results partially substantiate the findings from Company A. As with previous comparisons of the two companies, the differences in job rotation policy and the disparate scores on job relevance seem to affect the nature of the hypothesized relationships.

Although the theoretical basis of this research led to the regression model presented above, the results suggested that the direction of the relationship between commitment to the organization and perceptions of power could also be the reverse of what was tested. Perhaps employees who believe they have satisfactory access to resources and feel they participate in decisions that affect their work become more committed to the organization. Indeed, perceiving oneself to be powerful on the job and commitment to the organization may be mutually reinforcing. To test this possibility, an additional stepwise regression was conducted with organizational commitment as the dependent variable and access and participation along with the other variables included above as the predictor variables. Four significant predictors of organizational commitment were found: access to resources, job congruence, early expectations and job relevance. These four variables accounted for 36 percent of the variance in organizational commitment. (See Table 11). Once again, the results were different for Company B. The strongest predictor of commitment was job relevance (beta weight of .49) and access to resources was the second and only other significant predictor (beta weight of .34) Together, these two variables accounted for 50 percent of the variance in organizational commitment. The implications of this additional analysis are important and will be discussed in the following section.

Table 11

Stepwise Regression of Commitment
on Resources, Participation,
Expectations, Congruence and Relevance - Company A

Resources	.30
Participation	--
Expectations	.16
Congruence	.19
Relevance	.19
Number of jobs	--

Note. Only significant beta weights are reported.

CHAPTER 4

DISCUSSION AND IMPLICATIONS

Partial support for the first element of the research hypothesis - co-op status groups are significantly different on the intermediate variables - was found. Co-op graduates, particularly but not only those who remain with a former co-op employer, have more realistic expectations about their first job after college than do graduates of other degree programs. Co-op status groups do not differ significantly on the other three intervening variables, job congruence, job relevance and organizational commitment although the scores on job relevance approached significance and were in the predicted direction. The total amount of undergraduate work experience did not influence the intervening variables. Comparison of the relationship of amount of non-college sponsored undergraduate work versus amount of co-op work experience with early expectations confirmed that it is cooperative education that has a unique effect, and not just amount of undergraduate work experience. Amount of undergraduate work experience with a current employer also had a positive effect on early expectations.

The results provide evidence that work experience other than cooperative education does not lead to the same outcomes. Although most undergraduates have some kind of work experience, the benefits may be more financial than career related. Those employees who had cooperative education had more realistic expectations regarding their first job, even controlling for work experience with a former co-op employer. Thus, the integration of academic study with planned multiple work experiences that relate to the student's major seems to result in graduates who have more realistic understanding of what to expect in their first permanent job. It is not simply that they know the company, although for 30 percent of co-ops graduates that is the case and such familiarity with the organization does improve their understanding of the job still further.

There was also partial support for the second research hypothesis in that the intermediate variables were significant predictors of employee sense of power on the job. Organizational commitment was a strong predictor of both access to resources and participation in decision-making. Job relevance was a significant addition to the prediction of access to resources and job congruence was a significant addition to the prediction of participation in decision-making. Early expectations did not predict the outcome measures but was moderately associated with the strongest predictor of sense of power, organizational commitment. The amount of time with the company since graduation had a negligible relationship to employees' sense of power. The number of different positions did significantly contribute to the prediction of access to resources: the higher the number of positions, the less access to resources.

Although co-op participation was not directly related to employee sense of power, it was strongly related to early expectations which was a significant predictor of commitment which, in turn, was the major predictor of power. This study also confirmed the findings of past research which has shown that co-op graduates are more concerned with securing a job that relates to their undergraduate major. Even in Company A, where ratings of job relevance appeared to be affected, at least temporarily, by the rotation training program, former co-ops were more likely to rate their jobs as relevant to their career plans than other graduates. Job relevance was another major predictor of employee sense of power.

The above findings were complicated by the suspicion that aspects of the predicted relationship were not recursive, i.e., that sense of power might predict organizational commitment as well as commitment predicted power. The additional analysis showed this to be the case. Hence, the theoretical model for this research required re-examination.

A recent study (Stumpf and Hartman, 1984) published since this research began provides evidence to substantiate part of the model posed here and to suggest modifications to the rest. They investigated, using a longitudinal research design and path analysis, variables leading to organizational commitment or withdrawal. They found that "...career exploration activity two months prior to entry predicted organizational entry and socialization variables, which in turn predicted early job attitudes and intentions." More specifically, they found that having greater information about job opportunities and organizations leads to more realistic expectations and a greater degree of person-job congruence. They used the same measures of

expectations and congruence as in this research. Their findings on the importance of pre-job information coincides with the results of this research which show that cooperative education graduates have more realistic expectations than do other college graduates.

Stumpf and Hartman go on to suggest that person-job congruence is a "central factor" in the organizational entry and socialization process and is related to job-unit influence, perceived work performance and, indirectly, to organizational commitment. Although they did not include a measure of job relevance to future goals, it is clear from this research that job-congruence and job relevance are strongly related and that both relate to organizational sense of power.

The part of their model that is not consistent with this research is the causal relationship between power and commitment. Stumpf and Hartman suggested that job-unit influence was causally prior to and predictive of organizational commitment. Although they did use the same measure of organizational commitment as in this research, their measure of influence assessed "...the extent to which one feels that one 'influences aspects of the job and the work unit'". While this definition corresponds somewhat with Vroom's participation in decision-making used here, it is not as clearly related to access to resources. This research hypothesized the reverse path, that commitment as an outcome of successful socialization would predict sense of power. Given the type of data collected in this research, a causal relationship cannot be explored. However, the findings do suggest the need for future research to test a causal model and, particularly to assess the relationship between commitment and sense of power and to the antecedents of both these variables.

The findings of this research suggest another factor to consider in testing a theoretical model of the outcomes of different means of organizational entry and socialization. Company policy on socializing new college hires played an important role in modifying relationships among outcome variables. For example, because of the higher proportion of co-op graduates in their sample, Company A employees reported more realistic expectations of what their first job after college would be like and those expectations were more strongly related to the other outcome variables than for the Company B sample, which had a much smaller proportion of co-op graduates. On the other hand, Company A's training program whereby employees rotate through new positions every 6 months was associated with reduced access to resources and Company A employees perceived their current jobs to be less relevant to their future careers. These findings are not surprising since not all of the 6 months rotations would be

clearly related to an employee's final career goal and changing positions every 6 months would disrupt ready access to resources.

It is interesting that employees in both companies did not differ significantly on their level of organizational commitment or sense of power. Perhaps their significantly different scores on the intermediate variables comparable scores on the outcome variables suggests that there are different means to arrive at the same end. These comparisons between companies emphasize the importance of considering the organizational context in examining the relationships among means of socialization and outcomes.

To summarize, this research found that cooperative education graduates are more realistic in their expectations of their first job. This outcome is stronger for graduates who remain with a former co-op employer but even co-op graduates who choose new employers have more realistic expectations than other college graduates, no matter how much non-college sponsored work experience they may have. Co-op graduates also are more concerned about finding a job that relates to their undergraduate field of study. The results of this study further indicate they also may be more successful at finding such a job, though that requires additional study.

This research also suggests a causal model to be tested in future research. Elaborating on the longitudinal path analysis done by Stumpf and Hartman (1984), future researchers could examine both direct and indirect effects of co-op participation. Such an analysis should collect data to address two questions which this research could not address. First, are the effects of co-op participation strongest during the time of transition from student to employee, with a diminishing of influence over time? Is this the reason co-op related strongly to expectations at the start of their first job after college but did not relate to power and organizational commitment, variables that measure current employee perceptions? Second, did the type of training program used at Company A mask the possible effects of co-op participation? By rotating employees through various assignments, the outcome measures may well have been affected, as discussed above. Subsequent research should be aware of the impact that organizational variables could have on the predicted relationships.

In conclusion, this research has contributed to the literature on cooperative education in a number of ways. It is the first study to examine one precisely defined and theoretically based element of employee behavior hypothesized to result from cooperative education. Although only part of the model was substantiated, sufficient data

were collected to suggest ways to refine the model and gain deeper understanding of the outcomes of cooperative education. In addition, this is the first study to examine whether co-op graduates who remain with a former employer experience different benefits than other co-op alumni. The evidence indicates that this is indeed the case and future studies should examine outcomes separately for these two groups. The use of organizational theory, which has not typically been used to inform research in cooperative education, clearly strengthens understanding of outcomes of this educational approach.

Finally, this research has provided direct evidence to show that participants in cooperative education are more realistic in their choice of a first job after college and are more desirous of selecting a job related to their undergraduate major and has suggested how these factors directly influence organizational commitment and might indirectly enhance sense of power. Since there are currently 925 co-op programs in the United States placing 182,000 students, the number of students and employers who can experience these benefits is significant.

REFERENCES

Arthur D. Little, Inc. (1974). Documented employer benefits from cooperative education (The Report of a Study for Northeastern University). Cambridge, MA: Author.

Berdie, D.R., & Anderson, J.F. (1974). Questionnaires: Design and use. Metuchen, NJ: The Scarecrow Press.

Berwald, M.C. (1983). A longitudinal investigation of the effects of expectations on satisfaction with cooperative work terms. Unpublished thesis, University of Waterloo, Ontario, Canada.

Brown, S.J. (1976). Cooperative education and career development: A comparative study of alumni. Boston, MA: Northeastern University, Cooperative Education Research Center.

Carnegie fund to launch major study of goals of undergraduate education. (1984, August 8). The Chronicle of Higher Education, p. 3.

Cook, J.D., Hepworth, S.J., Wall, T.D., & Warr, P.B. (1981). The experience of work: A compendium and review of 249 measures and their use. New York: Academic Press.

Deane, R.T., Frankel, S., & Cohen, A.J. (1978). An analysis of co-op students employment costs and benefits. The Journal of Cooperative Education, XIV(2), 5-53.

Ehrlich, D. (1978). Employer assessment of a cooperative education program. The Journal of Cooperative Education, XIV(2), 74-87.

Feldman, D.C. (1976). A practical program for employee socialization. Organizational Dynamics, 5, 64-80.

Graen, G.B., Orris, B.J., & Johnson, T.W. (1973). Role assimilation processes in complex organizations. Journal of Vocational Behavior, 3, 395-420.

Hall, D.T. (1976). Careers in organizations. Santa Monica, CA: Goodyear.

Hayes, R.A. & Travis, J.H. (1976). Employer experience with cooperative education: Analysis of costs and benefits. Detroit, MI: The Detroit Institute of Technology.

Kanter, R.M. (1978). Men and women of the corporation. New York: Basic Books.

Levinson, D.J. (1978). The seasons of a man's life. New York: Ballantine Books.

Louis, M.R., Posner, B.Z., & Powell, G.N. (1983). The availability and helpfulness of socialization practices. Personnel Psychology, 36, 857-866.

Mowday, R.T., Steers, R.M., & Porter, L.W. (1979). The measurement of organizational commitment. Journal of Vocational Behavior, 14, 224-247.

Phillips, J.J. (1978). An employer evaluation of a cooperative education program. The Journal of Cooperative Education, XIV(2), 104-120.

Porter, L.W., & Smith, F.J. (1970). The etiology of organizational commitment. Unpublished paper, University of California at Irvine.

Quinn, R.P., & Staines, G.L. (1979). The 1977 quality of employment survey. Ann Arbor, MI: University of Michigan, Institute for Social Research, Survey Research Center.

Rooke, D.L. (1984). "Getting them while they're full of beans," etc. The Journal of Cooperative Education, XX(2), 57-61.

Schein, E. (1964). How to break-in the college graduate. Harvard Business Review, 42(6), 68-76.

Schein, E. (1968). Organizational socialization and the process of management. Industrial Management Review, 9, 1-16.

Schneider, H. (1910). Notes on the cooperative system. American Machinist, XXXIII(2), 148-150.

Stumpf, S.A., & Hartman, K. (1984). Individual exploration to organizational commitment or withdrawal. Academy of Management Journal, 27(20), 308-329.

Super, D.E., & Hall, D.T. (1978). Career development: Exploration and planning. Annual Review of Psychology, 29, 333-372.

Van Maanen, J. (1978). People processing: Strategies of organizational socialization. Organizational Dynamics, 7, 19-36.

Vroom, V.H. (1960). Some personality determinants of the effects of participation. Englewood Cliffs, NJ: Prentice-Hall.

Wanous, J.P. (1980). Organizational entry: Recruitment, selection and socialization of newcomers. Reading, MA: Addison-Wesley.

Weinstein, D.S. (1980). Cooperative education strategies and career development. Boston, MA: Northeastern University, Cooperative Education Research Center.

Weinstein, D.S., & Wilson, J.W. (1983). An employer description of a model employer cooperative education program. The Journal of Cooperative Education, XX(1), 60-83.

Wilson, J.W., & Lyons, E.H. (1961). Work-study college programs: Appraisal and report of the study of cooperative education. New York: Harper & Brothers.

Wilson, J.W. (1978). Summary report: "Cooperative Education: A national assessment". Boston, MA: Northeastern University, Cooperative Education Research Center.

Wilson, J.W. (1978b). Conceiving cooperative education. In J.W. Wilson (Ed.) Developing and expanding cooperative education. (pp. 1-4). San Francisco, CA: Jossey-Bass.

Wilson, R.L. (1981). The national assessment of cooperative-learning: A preliminary report. The Journal of Cooperative Education, XVII(2), 26-33.

Wright, J.J. (1980). Georgia's cooperative education program. Unpublished report, Georgia Organization of Southern Bell.

Yensco, W.R. (1971). Comparing engineering graduates from cooperative and regular programs. Engineering Education, 61, 816-818.

LIST OF APPENDICES

A - Information sent to Potential Employer Participants.....51

B - Cover Letter to Participants 59

C - Follow-Up Communications.....62

D - Final Work Experience Questionnaire.....64

E - Critique Form 74

F - Responses to Critique Form 75

G - Frequency Data - Pilot-Test 84

H - T-Test Comparing Company A and Company B.....90

I - Frequency Data - Companies A and B.....92

J - Reasons for Not Working for a Former Co-op Employer.....108

K - Data Analysis for Company B.....114

December 16, 1982

Director, Employment and Recruiting

Dear :

In September you and I discussed a study on cooperative education that the Cooperative Education Research Center at Northeastern University is going to conduct. The purpose of this letter is to summarize the reasons for conducting the research and to give you an opportunity to examine the questionnaire we would ask employees to complete. Our study hypothesizes that there are two ways participation in cooperative education affects employees' first full-time job after college. First, we expect that graduates of co-op programs will report greater involvement in and influence on decision-making for issues involving their job than graduates of traditional undergraduate programs. Second, we hypothesize that significantly more graduates of co-op programs will report they have access to the resources they need — e.g., information, people, equipment — to get their job done.

The results of this research will be important for those in cooperative education. It is the first study designed to assess how and why employees' undergraduate work experience might influence subsequent full-time job behavior. Since employees' sense of participation in decision-making and access to needed resources have been linked to positive outcomes for the organization, the results should be both interesting and useful.

The findings will also produce data valuable to the companies that participate in the research. The data will tell you how your recent college hires view their access to resources necessary to get their jobs done and their perception of involvement in decision-making. Such information may give you a new perspective on how well your employees view their ability to accomplish their work and may help to identify perceived barriers within your organization to doing their job.

I have enclosed a copy of the questionnaire we plan to give to employees. At this stage of the research, I am looking for one company to agree to help me pilot-test the questionnaire and study design and another company to actually carry out the study. Participation in the pilot-test would require a sample size of 100. For the full study, I would need a sample size of 500. I understand from our last conversation that IBM might not release names of employees to persons outside the company. If you decide to participate in this study, I would work with whomever you suggest as the data collector to try to ensure a smooth and unobtrusive data collection process that would protect the confidentiality of your employees.

BEST COPY AVAILABLE

Obviously, we feel this is an important research project. The federal government apparently agrees since this study was one of seven funded by the National Institute of Education out of 270 grant applications. I hope, once you have examined the questionnaire, that you will wish to discuss the project in more detail.

I will call you the week of Januury 2 to discuss this with you since I will be on vacation from December 22 through December 30. Thank you for taking the time to consider participating in this study.

Sincerely,

Sylvia J. Brown
Senior Research Associate

SJB:mg
Enclosure

BEST COPY AVAILABLE

APPENDIX A

1-4

COOPERATIVE EDUCATION RESEARCH CENTER
Northeastern University
Boston, Massachusetts 02115
617/437-3781

PART I - UNDERGRADUATE EXPERIENCE

1. Did you participate in any of the following kinds of work experience during your undergraduate years? (Check all that apply)

	YES	NO	
a. Cooperative education (alternating periods of college-sponsored employment and classroom study)	___	___	6
b. Internships, field experience, practica (one-time and often non-paid work experience)	___	___	7
c. Part-time or summer job	___	___	8
d. Other _____ (please specify)	___	___	9

2. How many terms (e.g. semesters, quarters, summers) of each type of work experience did you have as an undergraduate?

a. Cooperative education	_____terms	11
b. Internships, field experience practica	_____terms	12
c. Part-time or summer	_____terms	13
d. Other	_____terms	14

3. To what extent do you feel your college education improved your ability to get along effectively with other people?

Not At All		Moderately		A Great Deal	
1	2	3	4	5	16

4. When you graduated from college, how certain were you of your career choice?

Very Unsure If In The "Right" Career	Some Doubts About Career Choice	Had Some Confidence But Still Was Exploring	Fairly Confident About Career Choice	Very Confident In The "Right" Career	
1	2	3	4	5	18

PART 2 - POST-COLLEGE WORK EXPERIENCE

5. How certain are you <u>now</u> that you are in the "right" career?

Very Unsure In the "Right" Career		Some Doubts About My Career		Some Confidence But Am Still Exploring	Fairly Confident In "Right" Career	Very Confident In "Right" Career
1		2		3	4	5

20

6. To what extent does your job provide an opportunity for you to use your skills and training?

Hardly At All		To A Moderate Extent		Considerably
1	2	3	4	5

22

7. To what extent is your current job related to your college major?

Essentially Unrelated		Moderately Related		Very Closely Related
1	2	3	4	5

24

8. How important is it to you that your current job be related to your college major?

Not Important		Moderately Important		Very Important
1	2	3	4	5

26

9. Had you worked for this company at any point before beginning full-time employment after graduation? (Check as many as apply)

____Yes, as a co-op student 28

____Yes, as an internship, field experience or practicum student 29

____Yes, as a part-time employee 30

____Yes, as a summer employee 31

____No (please go to question 11) 32

____Other _____ 33
(please specify)

10. For how many terms did you work at this company <u>prior to graduation</u>?

_____Terms 35

11. For how long have you been working full-time at this company since graduation?

_____years and _____months

37 38-39

12. Have you had any other full-time work experience prior to working for this company.

___No
___Yes

41

If yes, how long was that work experience.

_____years and _____months

43 44-45

Listed below are a few statements which might (or might not) describe the way you felt about your current job <u>when you first started it</u>. Please indicate the degree to which you agree or disagree that the statement is an accurate description of how you felt at that time. If you are not certain whether you agree or disagree with the statement, circle "3" or "uncertain".

13. I knew what to expect when I came to work for this company.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

47

14. I often felt I didn't understand the way things were done in the company.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

49

The following statements refer to the way you feel about your job <u>at the present time</u>. Please indicate the extent to which each statement accurately describes how you feel about your job <u>now</u>.

15. In some ways, I feel like this is not the right type of work for me, or I'm not the right type of person for this job.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
1	2	3	4	5

51

16. I'm sure there must be another job in the company for which I am better suited.

Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	
1	2	3	4	5	53

For each of the following statements, please indicate how true the statement is for you in your current job.

	Not at all True	A little True	Moderately True	Very True	
17. I have enough information to get the job done.	1	2	3	4	55
18. I receive enough help and equipment to get the job done.	1	2	3	4	56
19. I have enough authority to do my job.	1	2	3	4	57
20. My supervisor is competent in doing his or her job.	1	2	3	4	58
21. My responsibilities are clearly defined.	1	2	3	4	59
22. The people I work with are competent in doing their jobs.	1	2	3	4	60
23. My supervisor is very concerned about the welfare of those under him or her.	1	2	3	4	61
24. My supervisor is successful in getting people to work together.	1	2	3	4	62
25. My supervisor is helpful to me in getting my job done.	1	2	3	4	63
26. The people I work with are helpful to me in getting my job done.	1	2	3	4	64
27. My supervisor is friendly.	1	2	3	4	65

28. In general, I have much say and influence over what goes on in my job.

Never True				Always True	
1	2	3	4	5	67

29. My immediate supervisor asks my opinion when a problem comes up which involves my work.

Never True				Always True	
1	2	3	4	5	68

30. If I have a suggestion for improving the job setup in some way, it is easy for me to get my ideas across to my supervisor.

Never True				Always True	
1	2	3	4	5	69

31. I feel I can influence the decisions of my immediate superior regarding the things about which I am concerned.

Never True				Always True	
1	2	3	4	5	70

32. Please indicate how helpful each of the following has been for "learning the ropes" within your current company.

	Very Little				Very Much	
a. Formal on-site orientation	1	2	3	4	5	72
b. Off-site residential training	1	2	3	4	5	73
c. New recruits	1	2	3	4	5	74
d. Senior co-worker relationship	1	2	3	4	5	75
e. Mentor/Sponsor	1	2	3	4	5	76
f. Peers	1	2	3	4	5	77
g. Supervisor	1	2	3	4	5	78

33. At what point in time did you feel you had "learned the ropes" in this company? (e.g. after 3 months, still "learning the ropes", etc.)

1-4

6-7

34. To what extent is this job part of your overall career plan?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 9

35. To what extent do you think this job is relevant to your future career plans?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 10

36. To what extent is it important to your career plan that you enjoy this job?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 11

37. How similar is what you do at this job to what you would like to do as a career?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 12

38. To what extent do you think that how much you like this job indicates how much you will like your career?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 13

39. How similar do you think the organization you work for is to where you will work for a career?

not at all 1 2 3 4 5 6 7 8 9 very much ___ 14

PART 3 - BACKGROUND INFORMATION

40. Are you ___male
___female? ___ 16

41. What is your occupation? (e.g. Systems Analyst, Accountant)

_____ ___ 18-19

42. In what year did you receive your baccalaureate degree?

_____ ___ 21-22

43. What is the name of the college from which you received your baccalaureate degree?

_____ ___ 24-54

Northeastern University

360 Huntington Avenue, Boston, Massachusetts 02115

Cooperative Education Research Center
617-437-3780

We are conducting a study to determine whether different kinds of work experience during college facilitates the entry of college graduates into the workplace. We will use our findings to help colleges to better prepare people for their first job after college and to help companies better understand needs of recent college hires.

Enclosed is our questionnaire which has been timed to take approximately 15 minutes to complete. Please place your completed questionnaire in the enclosed stamped return envelope and mail it to us by March 15, 1984. Your response to this questionnaire will be completely confidential. The code number in the right hand corner of your questionnaire is there only to simplify our processing procedures.

We know that people who fill out questionnaires are essential to our research and realize that all too often they are unsung heroes. To express our appreciation for your contribution, we have enclosed a magazine called GAMES. This is a magazine we have enjoyed (during our non-working hours, of course!) and hope you will enjoy it too. (Your name has not been and WILL NOT be given to the publisher of this magazine!! This one issue is simply a gift from us to you).

Thank you for taking time to assist us in our work.

Sincerely,

Sylvia J. Brown

Sylvia J. Brown
Senior Research Associate

SJB:mg
Enclosures

Northeastern University

360 Huntington Avenue, Boston, Massachusetts 02115

Cooperative Education Research Center
617-437-3780

We are conducting a study to determine whether different kinds of work experience during college facilitates the entry of college graduates into the workplace. We will use our findings to help colleges to better prepare people for their first job after college and to help companies better understand needs of recent college hires.

Enclosed is our questionnaire which has been timed to take approximately 15 minutes to complete. Please place your completed questionnaire in the enclosed stamped return envelope and mail it to us by March 15, 1984. Your response to this questionnaire will be completely confidential. The code number in the right hand corner of your questionnaire is there only to simplify our processing procedures.

We know that people who fill out questionnaires are essential to our research and realize that all too often they are unsung heroes. We want you to know that we do appreciate your contribution and would like to thank you in advance for taking time to assist us in our work.

Sincerely,

Sylvia J. Brown

Sylvia J. Brown
Senior Research Associate

SJB:mg
Enclosures

APPENDIX B
FULL STUDY

Northeastern University

360 Huntington Avenue, Boston, Massachusetts 02115

Cooperative Education Research Center

We are conducting a study to determine whether certain kinds of work experience during college facilitates the entry of college graduates into the workplace. We will use our findings to help colleges to better prepare students for their first job after college and help companies better understand needs of recent college hires.

This federally funded research has support, for which we are very appreciative. It is important that you understand, however, that in no way does wish to exert pressure on you to respond. The Research Center very much seeks your participation and hopes you will decide to join us in this cooperative research project.

Enclosed is our questionnaire which has been timed to take approximately 15 minutes to complete. Please place your completed questionnaire in the enclosed stamped return envelope and mail it to us as soon as possible - hopefully within the next ten days. Your response to this questionnaire will be completely confidential. The code number in the right hand corner of your questionnaire is there only to simplify our processing procedures.

We know that people who fill out questionnaires are essential to our research and realize that all too often their contribution is not acknowledged. To express our appreciation, we have enclosed a magazine called GAMES. This is a magazine we have enjoyed (during our non-working hours, of course!) and hope you will enjoy it too. (Your name has not been and WILL NOT be given to the publisher of this magazine!! This one issue is simply a gift from us to you.)

Thank you for taking time to assist us in our work.

Sincerely,

Sylvia J. Brown
Senior Research Associate

SJB:mg
Enclosures

APPENDIX C

I am concluding the data collection phase of my study on the effects of undergraduate work experience on one's first job after college. As of today, I have not received your completed questionnaire but I would still very much like to hear from you.

The results of this research will be widely disseminated among the business and education communities. The findings will help us understand the experiences of college graduates who have recently entered the workforce and how colleges and employers might better prepare people for their first full-time job. Each questionnaire we receive adds to the accuracy and strength of our findings. Your response is important!

I have enclosed another copy of the questionnaire and postpaid envelope in case you no longer have the one originally sent to you. I hope you will send this completed questionnaire to me as soon as possible.

Thank you very much for your time and assistance.

Sincerely,

Sylvia J. Brown
Senior Research Associate

SJB:mg
Enclosure

COOPERATIVE EDUCATION RESEARCH CENTER
NORTHEASTERN UNIVERSITY
BOSTON, MA 02115

Reminder to Send Us Work Experience Questionnaire

If your questionnaire is already in the mail, thank you very much for your cooperation. If you have not yet filled out your questionnaire, I hope you will do so as soon as possible. Each response we receive increases the accuracy of our research findings and recommendations.

Thank you very much for your assistance.

Sylvia J. Brown

Sylvia J. Brown
Senior Research Associate

Please call collect (617/437-3781) if you misplaced your questionnaire and need another.

APPENDIX D

WORK EXPERIENCE QUESTIONNAIRE

Cooperative Education Research Center
Northeastern University
360 Huntington Avenue
Boston, Massachusetts 02115

If you have any questions, please call Sylvia Brown at 617/437-3781.

1-4

COOPERATIVE EDUCATION RESEARCH CENTER
Northeastern University
Boston, Massachusetts 02115
617/437-3781

WORK EXPERIENCE QUESTIONNAIRE

PART I - UNDERGRADUATE EXPERIENCE

1. In what year did you receive your baccalaureate degree? (If you have more than one baccalaureate degree, please tell us when you received your first degree).

___1983

___1982

___1981

___Before 1981 6

2. Did you participate in any of the following kinds of work experience during your undergraduate years? (Check all that apply)

	YES	
Cooperative education (alternating periods of college sponsored employment and classroom study)	___	8
Internships, field experience, practica (one-time and often non-paid college sponsored work experience)	___	9
Work not sponsored by the college (e.g., part-time jobs, summer jobs, tutoring)	___	10
Federal College Work/Study (part-time work typically administered by the Financial Aid Office)	___	11

3. How many terms (e.g. semesters, quarters, summers) of each type of work experience did you have as an undergraduate?

Cooperative education	_____terms	13-1
Internships, field experience practica	_____terms	15-1
Work not sponsored by the college	_____terms	17-1
Federal College Work/Study	_____terms	19-2

BEST COPY AVAILABLE

4. To what extent do you feel your undergraduate college education improved your ability to get along effectively with other people?

Not At All		Moderately		A Great Deal
1	2	3	4	5

22

5. When you graduated from college, how certain were you of your career choice?

Very Unsure If In The "Right" Career	Some Doubts About Career Choice	Had Some Confidence But Still Was Exploring	Fairly Confident About Career Choice	Very Confident In The "Right" Career
1	2	3	4	5

24

PART 2 - POST-COLLEGE WORK EXPERIENCE

6. How certain are you now that you are in the "right" career?

Very Unsure In the "Right" Career	Some Doubts About My Career	Some Confidence But Am Still Exploring	Fairly Confident In "Right" Career	Very Confident In "Right" Career
1	2	3	4	5

26

7. To what extent does your job provide an opportunity for you to use your skills and training?

Hardly At All		To A Moderate Extent		Considerably
1	2	3	4	5

28

8. To what extent is your current job related to your undergraduate college major?

Essentially Unrelated		Moderately Related		Very Closely Related
1	2	3	4	5

30

9. How important is it to you that your current job be related to your college major?

Not Important		Moderately Important		Very Important
1	2	3	4	5

32

10. Did you work for your current employer at any point before beginning full-time employment after graduation?

____Yes* 34

____No**

*If yes, please specify how many terms of each type of work experience you had with this company before you began full-time work after graduation.

Type of work	Number of terms	Not Applicable	
Cooperative Education	____	____	36-37
Internship, field experience or practica	____	____	38-39
Work not sponsored by the college	____	____	40-41
Federal College Work/Study	____	____	42-43

**PLEASE ANSWER THIS QUESTION ONLY IF YOU HAD COOPERATIVE EDUCATION EXPERIENCE AS AN UNDERGRADUATE. If you are not currently working for a former co-op employer, why did you choose to work for a new organization? (Please be as specific as possible.)

_____ 45-46

_____

_____

11. For how long have you been working full-time at this company since graduation?

_____years and _____months 48-49

12. Before you began working full-time for this company, did you have any other full-time jobs after graduating from college? (Do not include summer jobs.)

__Yes* 50

__No

*If yes, how long was that work experience.

_____years and _____months 51-52

Listed below are a few statements which might (or might not) describe the way you felt about your current job when you first started it. Please indicate the degree to which you agree or disagree that the statement is an accurate description of how you felt at that time. If you are not certain whether you agree or disagree with the statement, circle "4" or "uncertain".

13. I knew what to expect when I came to work for this company.

Strongly Disagree			Uncertain			Strongly Agree	
1	2	3	4	5	6	7	54

14. I often felt I didn't understand the way things were done in the company.

Strongly Disagree			Uncertain			Strongly Agree	
1	2	3	4	5	6	7	55

15. I knew what the good points and bad points of this job were when I was hired.

Strongly Disagree			Uncertain			Strongly Agree	
1	2	3	4	5	6	7	56

Listed below are a series of statements that represent possible feelings that you might have about the company or organization for which you currently work. Please indicate the degree of your agreement or disagreement with each statement by circling one of the seven alternatives below each statement.

16. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree	
1	2	3	4	5	6	7	58

17. I talk up this organization to my friends as a great organization to work for.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree	
1	2	3	4	5	6	7	59

18. I would accept almost any type of job assignment in order to keep working for this organization.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

60

19. I find that my values and the organization's values are very similar.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

61

20. I am proud to tell others that I am part of this organization.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

62

21. This organization really inspires the very best in me in the way of job performance.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

63

22. I am extremely glad that I chose this organization to work for, over others I was considering at the time I joined.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

64

23. I really care about the fate of this organization.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

65

24. For me this is the best of all possible organizations for which to work.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

66

Please consider each of the following statements and for each one, indicate how true it is for you in your current job.

	Not at all True	A little True	Moderately True	Very True	
25. I have enough information to get the job done.	1	2	3	4	68
26. I receive enough help and equipment to get the job done.	1	2	3	4	69
27. I have enough authority to do my job.	1	2	3	4	70
28. My supervisor is competent in doing his or her job.	1	2	3	4	71
29. My responsibilities are clearly defined.	1	2	3	4	72
30. The people I work with are competent in doing their jobs.	1	2	3	4	73
31. My supervisor is very concerned about the welfare of those under him or her.	1	2	3	4	74
32. My supervisor is successful in getting people to work together.	1	2	3	4	75
33. My supervisor is helpful to me in getting my job done.	1	2	3	4	76
34. The people I work with are helpful to me in getting my job done.	1	2	3	4	77
35. My supervisor is friendly.	1	2	3	4	78

36. In general, I have much say and influence over what goes on in my job. 1-4

Never True				Always True	
1	2	3	4	5	6

37. My immediate supervisor asks my opinion when a problem comes up which involves my work.

Never True				Always True	
1	2	3	4	5	7

38. If I have a suggestion for improving the job setup in some way, it is easy for me to get my ideas across to my supervisor.

Never True				Always True	
1	2	3	4	5	8

39. I feel I can influence the decisions of my immediate superior regarding the things about which I am concerned.

Never True				Always True	
1	2	3	4	5	9

40. Please indicate how helpful each of the following has been for "learning the ropes" (i.e., learning what is expected of you and how to get it done) within your current company.

	Not Applicable	Very Little				Very Much	
a. Work experience at company during college	____	1	2	3	4	5	11
b. Formal on-site orientation	____	1	2	3	4	5	12
c. Formal training program	____	1	2	3	4	5	13
d. Off-site residential training	____	1	2	3	4	5	14
e. Senior co-worker relationship	____	1	2	3	4	5	15
f. Peers	____	1	2	3	4	5	16
g. Supervisor	____	1	2	3	4	5	17

Please indicate the degree of your agreement or disagreement with each of the following statements.

41. I have access to the resources I need (e.g., information, equipment, staff support) to effectively accomplish my job.

Strongly Disagree			Uncertain			Strongly Agree	
1	2	3	4	5	6	7	19

42. In some ways, I feel like this is not the right type of work for me, or I'm not the right type of person for this job.

Strongly Disagree			Uncertain			Strongly Agree
1	2	3	4	5	6	7

21

43. I'm sure there must be another job in the company for which I am better suited.

Strongly Disagree			Uncertain			Strongly Agree
1	2	3	4	5	6	7

22

44. To what extent is this job part of your overall career plan?

not at all								very much
1	2	3	4	5	6	7	8	9

24

45. To what extent do you think this job is relevant to your future career plans?

not at all								very much
1	2	3	4	5	6	7	8	9

25

46. To what extent is it important to your career plan that you enjoy this job?

not at all								very much
1	2	3	4	5	6	7	8	9

26

47. How similar is what you do at this job to what you would like to do as a career?

not at all								very much
1	2	3	4	5	6	7	8	9

27

48. To what extent do you think that how much you like this job indicates how much you will like your career?

not at all								very much
1	2	3	4	5	6	7	8	9

28

49. How similar do you think the organization you work for is to where you will work for a career?

not at all								very much
1	2	3	4	5	6	7	8	9

29

PART 3 - BACKGROUND INFORMATION

50. How many different jobs have you had since you began to work for this company? (e.g. if you had to rotate through different departments or divisions as part of a formal training program.)

_____ 30
Number of assignments

51. Are you ___male
___female? 32

52. What is your age? _____ 34-35

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS RESEARCH.

If you would like to receive a summary of the findings - which will be available this Fall - please write your name and preferred mailing address below.

- -

_____
NAME

_____
STREET

_____
CITY STATE ZIP CODE

APPENDIX E

CRITIQUE FORM

There really is a good reason why we are giving you a questionnaire on the questionnaire! We'll never know what is right and what is wrong with our questionnaire unless you tell us.

Since we plan to use this questionnaire extensively in future research, we want to be sure it is as good as it can be. Please use this form to give us your critical reaction to the questionnaire once you have completed it.

1. About how long did it take you to fill out the questionnaire?

_____minutes

2. If you had any kind of problem answering any of the questions (e.g. question was unclear) please tell us the question number(s) and the problem(s) you had.

3. Which instructions confused you?

4. Is the questionnaire easy to fill out?

5. Did the cover letter make you want to fill out the questionnaire? (If not, what else might we have said?)

6. Was there anything special that made you want to or not want to fill out the questionnaire?

7. Did the gift make you more inclined to respond to our questionnaire?

8. Please give us any other suggestions or comments that would improve the questionnaire. (Use back of this page for your additional comments)

THANK YOU VERY MUCH!
PLEASE RETURN THIS CRITIQUE FORM WITH
YOUR COMPLETED QUESTIONNAIRE IN
THE ENCLOSED STAMPED ENVELOPE

APPENDIX F

Responses to Pilot-Test Critique Form

n=161

Q. # 1 - Time took to complete questionnaire

Number of Minutes	n
5	10
7	1
8	3
9	5
10	87
11	2
12	5
13	2
14	2
15	24
16	1
17	2
20	14
30	3

Q. # 2 - Problem answering questions

Question Number	Problem
1	▷ The phrase "undergraduate years" is confusing ▷ How do you define "coop" ▷ Work not related to present career
2	▷ The phrase "undergraduate years" is confusing ▷ Required memory access, nobody can remember all those co-op quarter dates. ▷ Number quarters of co-op ▷ Does "other full-time work" refer to internships or not ▷ Unclear, referring to quarters or years? ▷ Work not related to present career

Q. 2 (continued)

Question Number	Problem
3	▷ Interpretation
7	▷ Whom does this apply to - grad or undergrad
9	▷ Does not accomodate those who have gone on for Master's degrees.
12	▷ Does "other full-time work" refer to internships or not. ▷ Wasn't co-op full time training. ▷ Do you mean coop work experience or professional work experience. ▷ Can summer job be included?
13	▷ The questions that put words in my mouth ▷ What do you mean by expected. Ex. job requirements, supervisor/employer relations or work conditions.
14	▷ Poorly worded - Always use positive questions ▷ Does not accomodate those who have gone on for Master's degrees.
15	▷ Poorly worded - Always use positive questions. ▷ Doesn't take into account the fact that the job someone holds now isn't suited for them but they need it for experience to get where they want to be.
16	▷ The questions that put words in my mouth.
23	▷ Responses for questions need to be more encompassing rather than clearly defined.
28	▷ Why is the scale different for questions.
31	▷ Why is the scale different for questions.
32	▷ Don't know what "mentor/sponsor" means, "new recruits" is a nice phrase but, then, what are "peers"? ▷ How would "new recruits" help? to learn the ropes? ▷ What are "new recruits"? ▷ What is a mentor/sponsor

Q. 2 (continued)

Question Number	Problem
32	▷ "Learning the ropes" should be changed to "the ability to comfortably perform job tasks without close supervision."
	▷ Did not understand the selections, what is the point of this?
	▷ A-G, a little confusing; unclear
	▷ Does "other full-time work" refer to internship or not.
33	▷ Should give choices, e.g., 3 mos, 6 mos, etc....
34	▷ Why is the scale different for questions
	▷ Too many choices - too broad a range seemed redundant, differentiated by only fine shades of the same essential question.
	▷ Should have an N/A category in all "To what extent" questions.
36	▷ Responses for questions need to be more encompassing rather than clearly defined.
38	▷ "Do you think that how much" - too wordy.
	▷ Person does not like particular job. But, wants to remain in same field.
39	▷ Should have a N/A category in all "To what extent" questions.
	▷ Confusing.
	▷ Why is the scale different for questions.
	▷ Too many choices - too broad a range: seemed redundant, differentiated by only fine shades of the same essential question
	▷ Wording was confusing.
General	▷ Too many questions about relationship with supervisor
	▷ Hard to answer some questions because had two B.S. degrees.

Q. 3 - Problem answering question

Question Number	Problem
2	▷ Is not quite clear enough recounting (i.e. if someone spent more than 4 years in school) do you stop counting at 4 years or continue.
12	▷ Re. F.T. experience ▷ Does summer work experience - which is F.T. - does it count for Question 12 too?
17	▷ These are either yes or no questions. Ambiguous responses, what is difference between a little true/ moderately true.
21	▷ These are either yes or no questions. Ambigous responses, what is difference between a little true/moderately true.
32	▷ Not all parts apply
33	▷ No answer space
No Problem	52

Q. 4 - Questionnaire easy to fill out

YES	NO	SOMEWHAT
n=152	n=2	n=4
▷ Very easy to fill out. ▷ Circling and checking things is always easy.	▷ Because had both undergraduate and graduate experience. ▷ Question 13 through 31 should have a wider "range", i.e. "1 ▷ 9".	▷ Busy, graphics, general poor. ▷ Only if you have a definite career path. ▷ Not real simple, It to some thinking. ▷ Sort of but some questi seemed redundant.

Q. 5 - Did cover letter make you want to fill out questionnaire?

Yes n=102

- Always interested in questionnaire
- Liked the personal touch
- The fact N. U. is so helpful in my academic and work levels
- "Games" was nice touch and made me more apt to fill it out
- Feel internship affect job placement and this research seemed worth the time to fill it out.
- Good cover letter. keept it.
- Seemed sincere
- Good job!
- Good information!
- Good cover letter!

No n=26

- Confusion, because I have 2 degrees.
- Just wanted to help out. Read letter after I feeled out the questionnaire.
- Didn't really read it. Make shorter so buy people will bother to read it.
- I usually don't like to fill out questionnaires.
- Didn't tell me enough about what you are doing.
- The only reason I filled out this questionnaire is because it was for educational purposes. Otherwise, would not have filled it out.
- Cover letter made one survey seem like it was only for NU use.
- Mixed-emotions - Co-op probably does help. But, will colleges really adapt their curriculum to better prepare young people.
- Too long - get to point.
- Letter made completing of applicate appear like command.
- Study seems final without further justification.
- There is nothing else you could have done.
- Appeal more to the student - "when you were a student".
- Explain how doing this survey will help co-ops with the transition into the "real" world.
- Needs more info or why survey is being done. Ex: #'s
- The postage paid envelope did the trick.
- Unsung hero's is too much.
- Offer to send results.
- Nothing makes me want to fill out a questionnaire - Feel what you are trying to accomplish is long over due.

Somewhat n=7

- ▷ Your knowledge of time to complete showed serious though in compiling the questionnaire.
- ▷ Would address more the importance of everyone filling out the questionnaire.
- ▷ The magazine was an incentive
- ▷ It didn't put me off. I only fill out things I feel will help ... maybe that is in the cover letter and I picked that up.
- ▷ I took marketing research classes in college and understand how important they can be for the success of a research project.
- ▷ Cover letters influence me very little - I feel the content was important enough to take the time to fill it out.

Q. 6 - Was there anything special that made you want to or not want to fill out the questionnaire?

Yes n=48

Gift:
- ▷ Free magazine influenced my decision.
- ▷ Thanks for the "Games"
- ▷ Sense of obligation (gift)
- ▷ Postage paid.
- ▷ Sending magazines and stating name not given to publishers.

Help Other Students:
- ▷ To help out a student, get good accurate results.
- ▷ Had internship that was job related. Realize important of making others aware this can help in finding a job.
- ▷ Anything that helps students make transition is worthwhile.
- ▷ Help out fellow students.
- ▷ Obligation to NU - close ties to NU
- ▷ Felt got a lot out of co-op so should put something back into it.
- ▷ Help ready stduents for graduation
- ▷ Understand the work involved in developing questionnaire - Thus, fill them out if they'll help the University. You did a fine job (NU)
- ▷ On-the-job training is so important and helped me so much when I graduated and entered the job market.
- ▷ Being an NU graduate, my almamater to my school (NU) could benefit and help in educating students to "the real world"
- ▷ NU so helpful in academic/work develop
- ▷ NU's strong reputation for co-op made me want to help the program
- ▷ Have friends who graduated when I did but have not yet found jobs possible that this is due to types of jobs had during college
- ▷ Want students to realize importance of on-the-job experience in "real world", not just academic.
- ▷ Being a recent graduate, I thing this will help graduating students.

- Recent graduate
- Improve situation for others
- Interest in improving academic excellency and "life after college"
- Figured the information you desired was important
- Good cause to prepare students for career choices.

Good Questions and Format:

- Excellent questions. Well thought out approadh
- Questions are type I often ask myself.
- Clear print
- Easy in completing
- Cover letter
- Easy reading
- Easy not too lengthy
- No essays
- Questions "quick"
- Didn't think it would take alot of time - took only 1) minutes
- Nice paper.

Like Surveys:

- I'm a sucker for questionnaires.
- I like questionnaires
- I like to help research organizations.
- Like to fill out surveys
- Sympathy with survey makers
- Like to assist colleges

Other:

- Unsung hero is a bit much.
- To find out results.
- Little time.
- Intersting study
- Feedback is important
- Expensive paper.

No n=22

- To make sure survey isn't skewed to the fantastic side - after five years of college, six months of unemployment - I'm a secretary!

Q. # 7 - Did the gift make you more inclined to respond

Yes n=24

- Most definitely.
- Made me feel guilty not to - liked the N.U. sticker on magazine cover.
- Sense of obligation.

No n=60

- Not at all - probably won't have time to read it.
- Threw it out. But, it is a nice idea.
- Would have done it anyway
- Gift made me not want to fill out the questions, Money would of been a excellent stimulant.
- No, but thank you.
- I am willing to cooperate in any university study.
- But, a great magazine - Thanks!

Somewhat n=5

- Not really, but it didn't hurt either
- A little
- It was a nice gesture
- Maybe
- More yes than no.

Q. # 8 - Suggestions or comments to improve questionnaire

General Comments

- Keep up good effort.
- The questions and cover letter was very nicely done
- Good questionnaire.
- Nice format, readable, uncluttered.
- Explain co-op - this person couldn't figure out how many quarters he worked
- Ask if school is on semester or quarter system (10 week vs. 15 week work terms)
- Have respondants recommend improvement in their college background
- Put background information into survey
- Should include a "does not apply"

- ▷ How did you know so much about me (e.g. name, address, college grad)
- ▷ Good idea to use critique form to see if questionnaire is doing what it's meant to do.
- ▷ You might ask how many schools were attending.

Need better info on job and college preparation

- ▷ Discuss more tangible aspects of the job (i.e., fellow workers, atmosphere, relaxed, pressured, motivation)
- ▷ Include space for written answer to clarify one's particular job situation.
- ▷ Questionnaire and cover letter don't correspond. Expected questions on type of co-op work, hours worked, how the job was and how it was related to persons major.
- ▷ Questions concerning present job feelings are unrelated to college work experience.
- ▷ Ask about relationship with major and current job.
- ▷ Relocation can affect how person feels about job.
- ▷ If received undergraduate degree, worked full time for seversl years and then went back for Masters and working on new job questions not applicable.
- ▷ Questions were too general - ?s were not @ "different kinds of work experience" But, they covered, mainly what I'm doing now. Believe results will show that those people who have had co-op or internship like their present job. Career field more than those who have only part-time. Also, there are no questions that sharply show a connection behavior in-school, work experience and after school employment. Question 9 touches this but only indirectly.
- ▷ If this is not the career we choose to be in whey are we working there
- ▷ Ask: How well did your college achieve it's goal
- ▷ Doesn't take into account business owners
- ▷ Questions concerning present job feelings are unrelated to college work experience.
- ▷ Explain how questions can help colleges better prepare people and what companies will do with the information.

Confusing

- ▷ Some questions hard to answer since this is second job since graduation and only been there 1½ months.
- ▷ From Q. 27 to 28, you switch from 1 - 4 meaning "Not True" to "Very True" to 1 - 5 meaning "never true" to "Always True" - this is slightly confusing.
- ▷ Questions 34 through 39 seemed repetitive.
- ▷ Questions 34 through 39 too many response options
- ▷ Use wider scales Ex 1 - 10 instead of 1 - 5.

More time

- ▷ Wanted more lead time to fill out. 10 days would be better.
- ▷ Needs more return time.

APPENDIX G

TABLE G-1

FREQUENCY DATA - SAMPLE CHARACTERISTICS

PILOT-TEST

Undergraduate Work Experience (n=110)	Yes	No
Cooperative education	54.5*	
Internships	16.4	
Part-time/summer	85.5	
Other	9.3	
Prior work with present employer before beginning full-time employment (n=110)		
co-op student	26.4	
internship, field experience, practica	3.6	
part-tiem employee	15.5	
summer employee	8.2	
no	69.1	
Gender (n=110)		
Male	72.7	
Female	27.3	

TABLE G-2

FREQUENCY DATA FOR CAREER-RELATED VARIABLES - PILOT-TEST

Effectiveness with othe people		N=109
1 - Not at all	.9	
2 -	.9	
3 - Moderately	30.3	
4 -	40.4	
5 - A Great Deal	27.5	
Certainty of career at graduation		N=110
1 - Very unsure	1.8	
2 - Some Doubts	4.5	
3 - Still Exploring	21.8	
4 - Fairly Confident	37.3	
5 - Very Confident	34.5	
Certainty of career "now"		N=110
1 - Very unsure	.9	
2 - Some Doubts	6.4	
3 - Still Exploring	19.1	
4 - Fairly Confident	30.9	
5 - Very Confident	42.7	
Use skills and training		N=110
1 - Hardly at all	2.7	
2 -	2.7	
3 - To a Moderate Extent	18.2	
4 -	34.5	
5 - Considerably	41.8	
Job relates to major		N=110
1 - Essentially Unrelated	2.7	
2 -	3.6	
3 - Moderately Related	11.8	
4 -	23.6	
5 - Very Closely Related	58.2	

Importance job relates to major		N=110
1 - Not Important	1.8	
2 -	4.5	
3 - Moderately Important	25.5	
4 -	34.5	
5 - Very Important	33.6	

TABLE G-3
FREQUENCY DATA FOR MEANS OF ORGANIZATIONAL SOCIALIZATION - PILOT-TEST

How helpful in "learning the ropes"	n	Very Little 1	2	3	4	Very Much 5
Formal on-site orientation	105	21.0	19.0	20.0	20.0	20.0
Off-site residential training	103	45.6	13.6	19.4	10.7	10.7
New recruits	97	38.1	19.6	27.8	9.3	5.2
Senior co-worker relationship	107	4.7	.9	15.9	40.2	38.3
Mentor/Sponsor	99	29.3	8.1	25.3	21.2	16.2
Peers	107	4.7	5.6	19.6	43.0	27.1
Supervisor	108	3.7	7.4	13.9	39.8	35.2

TABLE G-4

RESPONSES TO INDIVIDUAL ITEMS
MAKING UP EACH SCALE - PILOT-TEST

Item	n	Strongly Disagree 1	2	Uncertain 3	4	Strongly Agree 5
		EARLY EXPECTATIONS				
Knew what to expect	110	2.7	22.7	20.0	44.5	10.0
Didn't understand way things done	110	1.8	30.9	11.8	45.5	10.0
		JOB CONGRUENCE				
Work not right for me or not right for job	110	1.8	20.9	6.4	40.0	30.9
Better suited for another job	110	7.3	15.5	30.0	29.1	18.2

Item	n	Not At All 1	2	3	4	5	6	7	8	Very Much 9
		JOB RELEVANCE								
Job part of career plan	110	2.7	0	.9	1.8	8.2	10.0	21.8	13.6	40.9
Job relevant to future career plans	110	.9	1.8	1.8	.9	5.5	7.3	20.0	15.5	46.9
Important to career plan that enjoy job	109	2.8	.9	3.7	1.8	5.5	7.3	15.6	15.6	46.8
Similarity of job to career	110	1.8	3.6	2.7	7.3	10.0	12.7	22.7	15.5	23.6
Extent job indicates how much will like career	110	4.5	.9	6.4	4.5	3.6	8.2	9.1	21.8	40.9
Similarity of organization to career organization	110	2.7	5.5	4.5	5.5	13.6	6.4	20.9	13.6	27.3

Item	n	Not at all True	A Little True	Moderately True	Very True
		ACCESS TO RESOURCES			
Enough information to get job done	110	1.8	8.2	53.6	36.4
Enough help to get job done	109	1.8	5.5	46.8	45.9
Enough authority to do my job	110	1.8	3.6	38.2	56.4
Supervisor competent in job	109	2.8	9.2	27.5	60.6
Responsibilities clearly defined	110	3.6	23.6	46.4	26.7
People competent in their job	110	.9	6.4	44.5	48.2
Supervisor concerned about welfare	109	4.6	8.3	35.8	51.4
Supervisor successful getting people to work together	109	2.8	18.3	39.4	39.4
Supervisor helpful to me in getting my job done	108	3.7	13.9	34.3	48.1
People helpful to me in getting my job done	109	2.8	9.2	34.9	53.2
Supervisor is friendly	109	1.8	4.6	24.8	68.8

Item	n	Never True 1	2	3	4	Always True 5
		PARTICIPATION IN DECISION MAKING				
Have much say and influence over my job	110	0	9.1	26.4	51.8	12.7
Immediate supervisor asks my opinion when problem comes up	109	.9	4.6	19.3	45.0	30.3
Suggestion for improving the job, it is easy to get my ideas across to supervisor	110	0	4.5	16.4	43.6	35.5
Influence the decisions of superior regarding things about which I am concerned	110	0	4.5	28.2	48.2	19.1

TABLE H-1

MEAN SCORES ON INTERMEDIATE AND OUTCOME VARIABLES
COMPANY A VS. COMPANY B

	Expectations	Congruence	Relevance	Commitment	Resources	Participation
Company A (n=225)	4.27**	4.21**	6.14**	4.93	3.06	3.69
Company B (n=140)	3.80**	4.88**	6.82**	4.89	3.07	3.80

**$p < .01$

TABLE H-2
MEAN SCALE SCORES - NON-CO-OPS IN
COMPANY A VS. COMPANY B

	Expectations	Congruence	Relevance	Commitment	Resources	Participation
Company A (n=111)	3.84	4.14	5.96**	4.82	3.02	3.67
Company B (n-122)	3.81	4.89	6.86**	4.88	3.05	3.78

** $p < .01$

APPENDIX I
COMPANY A

TABLE I-1

FREQUENCY DATA - SAMPLE CHARACTERISTICS
COMPANY A

Year received baccalauteate degree		n=225
	1983	31.6
	1982	28.4
	1981	40.0
Undergraduate coop work experience		n=225
	Yes	50.7
	No	49.3
Internships, field experience, practica		n=225
	Yes	12.4
	No	87.6
Part-time non-college sponsored work		n=225
	Yes	73.8
	No	26.2
Federal College Work/Study program		n=225
	Yes	17.8
	No	82.2
Worked for current employer before beginning full-time employment.		n=223
	Yes	30.5
	No	69.5
Previous full-time employment after graduation		n=225
	Yes	--
	No	100.0

Gender		n=225
Male	79.1	
Female	20.9	

Access to resources needed to accomplish job		n=225
1 - Strongly disagree	.9	
2 -	3.6	
3 -	7.1	
4 - Uncertain	4.9	
5 -	29.3	
6 -	40.9	
7 - Strongly agree	13.3	

TABLE I-2

FREQUENCY DATA FOR MEANS OF ORGANIZATIONAL SOCIALIZATION - COMPANY A

How helpful in "learning the ropes"	n	N/A	Very Little 1	2	3	4	Very Much 5
Experience at company during college	225	47.1	2.2	1.8	[illegible].9	17.3	26.7
Formal on-site orientation	224	17.0	18.6	20.5	15.2	12.9	5.8
Formal training program	225	22.2	8.4	7.6	15.6	21.8	24.4
Off-site residential trianing	223	73.5	7.6	5.4	8.5	3.6	1.3
Senior co-worker relationship	225	11.1	1.8	6.2	14.2	28.4	38.2
Peers	225	1.8	3.6	5.8	23.1	44.4	21.3
Supervisor	225	.4	7.6	9.8	30.2	33.3	18.7

TABLE I-3

FREQUENCY DATA FOR CAREER-RELATED VARIABLES - COMPANY A

Effectiveness with other people		N=225
1 - Not at all	.4	
2 -	11.6	
3 - Moderately	33.8	
4 -	35.1	
5 - A great deal	19.1	

Certainty of career at graduation		N=225
1 - Very unsure	1.8	
2 - Some doubts	3.1	
3 - Still exploring	23.6	
4 - Fairly confident	44.0	
5 - Very confident	27.6	

Certainty of right career "now"		N=224
1 - Very unsure	.9	
2 - Some doubts	5.8	
3 - Still exploring	16.5	
4 - Fairly confident	49.1	
5 - Very confident	27.7	

Use skills and training		N=224
1 - Hardly	2.2	
2 -	7.1	
3 - Moderately	31.7	
4 -	35.3	
5 - Considerably	23.7	

Job relates to major		N=225
1 - Essentially unrelated	4.4	
2 -	11.6	
3 - Moderately related	20.9	
4 -	28.0	
5 - Very closely related	35.1	

Important job relates to major		N= 225
1 - Not important	6.2	
2 -	11.1	
3 - Moderately important	34.2	
4 -	29.8	
5 - Very important	18.7	

TABLE I-4

RESPONSES TO INDIVIDUAL ITEMS
MAKING UP EACH SCALE - COMPANY A

Item	n	Strongly Disagree 1	2	3	Uncertain 4	5	6	Strongly Agree 7
EARLY EXPECTATIONS								
Knew what to expect	225	4.0	12.0	15.1	9.8	33.3	19.1	6.7
Didn't understand way things done	225	4.9	10.2	22.2	9.3	24.4	22.7	6.2
Knew good and bad points	225	5.8	15.6	18.2	12.4	22.2	22.2	3.6
JOB CONGRUENCE								
Work not right for me or not right for job	225	1.8	8.4	13.3	8.9	18.2	33.8	15.6
Better suited for another job	225	12.9	19.6	21.3	22.2	8.9	10.2	4.9
JOB COMMITMENT								
Put in a great deal of effort to help organization	225	.4	1.8	2.2	3.1	16.9	46.7	28.9
Tell friends great organization to work for	225	3.1	4.9	7.6	9.8	19.1	29.3	26.2
Accept any job to keep working for this organization	225	35.6	21.8	16.0	9.3	9.3	6.2	1.8
Values and organization's similar	225	5.3	10.2	16.0	20.0	21.8	22.7	4.0
Proud part of this organization	225	0	3.1	2.7	10.7	15.1	30.7	37.8
Organization inspires the best performance	225	4.4	6.2	8.4	15.6	25.8	32.0	7.6
Glad I chose this organization	225	1.3	4.4	6.2	8.4	13.3	35.1	31.1
Care about fate of organization	225	.4	2.7	.9	5.8	19.1	40.4	30.7
Organization best to work for	225	8.9	10.2	9.3	20.4	20.4	24.4	6.2

NOTE: The values represent percent of sample choosing each response option.

Item	n	Not At All 1	2	3	4	5	6	7	8	Very Much 9
					JOB RELEVANCE					
Job part of career plan	224	.4	1.8	4.9	4.0	9.4	22.3	22.8	18.8	15.6
Job relevant to future career plans	224	0	1.3	3.6	4.0	8.9	18.8	25.9	17.9	19.6
Important to career plan that enjoy job	224	3.6	3.1	4.9	8.0	9.8	12.9	24.1	17.00	16.5
Similarity of job to career	224	2.7	6.3	9.4	10.3	14.7	20.1	22.3	9.8	4.5
Extent job indicates how much will like career	224	4.0	7.1	15.2	11.6	9.8	13.8	15.6	17.0	5.8
Similarity of organization to career organization	225	4.0	4.4	9.3	5.3	12.0	12.4	25.3	18.7	8.4

Item	n	Not at all True 1	A Little True 2	Moderately True 3	Very True 4
			ACCESS TO RESOURCES		
Enough information to get job done	225	2.7	16.0	60.0	21.3
Enough help to get job done	225	3.6	18.2	47.1	31.1
Supervisor competent in job	224	2.2	21.0	47.3	29.5
Responsibilities clearly defined	225	9.3	32.4	39.1	19.1
People competent in their job	225	.4	16.0	50.2	33.3
Supervisor concerned about welfare	225	8.0	13.8	42.2	36.0
Supervisor successful getting people to work together	225	7.1	20.9	48.0	24.0
Supervisor helpful to me in getting my job done	224	7.6	25.9	40.2	26.3
People helpful to me in getting my job done	225	0	14.7	48.0	37.3
Supervisor is friendly	224	2.7	10.3	32.1	54.9

Item	n	Never True 1	2	3	4	Always True 5
PARTICIPATION IN DECISION MAKING						
Have much say and influence over my job	225	0	13.3	28.0	51.1	7.6
Immediate supervisor asks my opinion when problem comes up	225	1.3	8.4	19.1	52.0	19.1
Suggestion for improving the job, it is easy to get my ideas across to supervisor	225	.4	8.9	21.3	46.7	22.7
Influence the decisions of superior regarding things about which I am concerned	225	0	11.6	28.9	44.0	15.6

APPENDIX I
COMPANY B

TABLE I-5

FREQUENCY DATA - SAMPLE CHARACTERISTICS

COMPANY B

Year received baccalaureate degree		n=140
	1983	30.7
	1982	25.7
	1981	43.6
Undergraduate coop work experience		n=140
	Yes	12.9
	No	87.1
Internships, field experience, practica		n=140
	Yes	29.3
	No	70.7
Part-time non-college sponsored work		n=140
	Yes	87.9
	No	12.1
Federal College Work/Study program		n=140
	Yes	15.7
	No	84.3
Worked for current employer before beginning full-time employment.		n=134
	Yes	6.0
	No	94.0
Previous full-time employment after graduation		n=140
	Yes	--
	No	100.0

Gender		n=140
Male	66.4	
Female	33.6	

Access to resources needed to accomplish job		n=140
1 - Strongly disagree	3.6	
2 -	6.4	
3 -	9.3	
4 - Uncertain	4.3	
5 -	32.1	
6 -	30.7	
7 - Strongly agree	13.6	

TABLE I-6

FREQUENCY DATA FOR CAREER-RELATED VARIABLES - COMPANY B

Effectiveness with other people		N=140
1 - Not at all	1.4	
2 -	3.6	
3 - Moderately	25.7	
4 -	46.4	
5 - A great deal	22.9	
Certainty of career at graduation		N=140
1 - Very unsure	1.4	
2 - Some doubts	12.1	
3 - Still exploring	19.3	
4 - Fairly confident	32.1	
5 - Very confident	27.7	
Certainty of right career "now"		N=140
1 - Very unsure	0	
2 - Some doubts	9.3	
3 - Still exploring	15.0	
4 - Fairly confident	35.0	
5 - Very confident	40.7	
Use skills and training		N=139
1 - Hardly	2.9	
2 -	5.8	
3 - Moderately	23.0	
4 -	28.1	
5 - Considerably	40.3	
Job relates to major		N=140
1 - Essentially unrelated	4.3	
2 -	2.1	
3 - Moderately related	15.0	
4 -	30.0	
5 - Very closely related	48.6	

Important job relates to major		N=140
1 - Not important	7.9	
2 -	10.0	
3 - Moderately important	25.0	
4 -	29.3	
5 - Very important	27.9	

TABLE I-7

FREQUENCY DATA FOR MEANS OF ORGANIZATIONAL SOCIALIZATION - COMPANY B

How helpful in "learning the ropes"	n	N/A	Very Little 1	2	3	4	Very Much 5
Experience at company during college	140	65.0	5.7	1.4	7.9	8.6	11.4
Formal on-site orientation	139	23.7	20.1	15.1	15.1	15.1	10.8
Formal training program	139	30.9	7.2	11.5	16.5	14.4	19.4
Off-site residential training	137	54.7	8.0	5.8	13.9	8.0	9.5
Senior co-worker relationship	140	6.4	3.6	5.7	10.7	27.9	45.7
Peers	139	1.4	2.9	4.3	20.1	42.4	28.8
Supervisor	140	1.4	12.1	13.6	17.1	28.6	27.1

TABLE I-8

RESPONSES TO INDIVIDUAL ITEMS
MAKING UP EACH SCALE - COMPANY B

Item	n	Strongly Disagree 1	2	3	Uncertain 4	5	6	Strongly Agree 7
EARLY EXPECTATIONS								
Knew what to expect	140	5.0	15.7	22.1	16.4	26.4	13.6	.7
Didn't understand way things done	140	7.1	19.3	22.9	5.7	21.4	20.0	3.6
Knew good and bad points	140	10.0	22.1	17.1	12.1	24.3	13.6	.7
JOB CONGRUENCE								
Work not right for me or not right for job	140	28.6	31.4	10.0	8.6	7.9	8.6	5.0
Better suited for another job	140	13.6	27.9	9.3	20.7	12.9	10.7	5.0
Job Commitment								
Put in a great deal of effort to help organization	139	0	5.0	.7	4.3	16.5	36.0	37.4
Tell friends great organization to work for	140	3.6	5.7	9.3	14.3	14.3	30.7	22.1
Accept any job to keep working for this organization	140	33.6	22.1	12.9	15.00	12.1	4.3	0
Values and organization's similar	140	6.4	13.6	15.0	20.7	14.3	27.1	2.9
Proud part of this organization	140	2.1	2.1	.7	12.9	17.9	29.3	35.0
Organization inspires the best performance	140	3.6	7.9	14.3	12.9	18.6	30.7	12.1
Glad I chose this organization	140	2.1	1.4	2.9	17.1	10.7	31.4	34.3
Care about fate of organization	140	1.4	2.9	2.9	6.4	17.9	22.9	45.7
Organization best to work for	140	11.4	9.3	12.1	23.6	5.7	29.3	8.6

NOTE: The values represent percent of sample choosing each response option

Item	n	Not At All 1	2	3	4	5	6	7	8	Very Much 9
		JOB RELEVANCE								
Job part of career plan	140	0	2.1	4.3	3.6	7.1	12.9	22.9	23.6	23.6
Job relevant to future career plans	140	0	1.4	.7	3.6	6.4	9.3	27.1	22.9	28.6
Important to career plan that enjoy job	140	.7	2.9	2.1	3.6	5.7	14.3	20.7	17.1	32.9
Similarity of job to career	140	1.4	2.1	4.3	6.4	10.0	18.6	26.4	18.6	12.1
Extent job indicates how much will like career	140	5.0	2.9	4.3	4.3	12.9	12.1	17.9	16.4	24.3
Similarity of organization to career organization	140	2.1	5.7	7.1	9.3	9.3	10.0	20.0	19.3	17.1

Item	n	Not at all True 1	A Little True 2	Moderately True 3	Very True 4
		ACCESS TO RESOURCES			
Enough information to get job done	139	6.5	19.4	57.6	16.5
Enough help to get job done	140	8.6	22.9	54.3	14.3
Enough authority to do my job	140	3.6	15.7	47.9	32.9
Supervisor competent in job	140	8.6	11.4	30.7	49.3
Responsibilities are clearly defined	140	6.4	30.7	37.9	25.0
Pople competent in their job	140	4.3	14.3	43.6	37.9
Supervisor concerned about welfare	139	7.2	12.9	29.5	60.4
Supervisor successful in getting people to work together	140	8.6	20.7	37.1	33.6
Supervisor helpful to me in getting my job done	140	10.7	20.0	34.3	35.0
People helpful to me in getting my job done	140	2.9	19.3	36.4	41.4
Supervisor is friendly	140	.7	10.0	21.4	67.9

Item	n	Never True 1	2	3	4	Always True 5
PARTICIPATION IN DECISION MAKING						
Have much say and influence over my job	140	.7	11.4	27.9	46.4	13.6
Immediate supervisor asks my opinion when problem comes up	140	.7	10.0	16.4	47.1	25.7
Suggestion for improving the job, it is easy to get my ideas across to supervisor	140	.7	10.0	15.0	45.0	29.3
Influence the decisions of superior regarding things about which I am concerned	140	2.1	7.1	21.4	47.9	21.4

APPENDIX J

Why Co-op Graduates Do Not Work For Former Co-op Employer

1. No job was available: former co-op employer not hiring:

- Employer was not hiring at the time of graduation.
- Former co-op employer has had huge lay-offs and is closing down operations.
- Forced to seek new employment due to plant lay-off.
- The co-op employer was not hiring when I graduated. I was very fortunate to find a job anywhere.
- My co-op job was replaced by another co-op after I graduated. No other jobs were open at the time.
- Mix-up in personnel Dept of co-op employer - never got job offer.
- Work relating to my skills was not available where I co-oped when I graduated.
- Persued studies in eletromagnetics as a Sr. Co-op employers were not involved in Research and Development of eletromagnetics components (Filters, Antennas)
- My co-op employer went into financial difficulties. In addition to this, the continuing opportunities are much greater with my new employer.
- Old employer was not hiring.
- Did not like geographical location. They were not hiring at the time of my graduation.
- Forced to seek new employment due to plant lay-off.
- The reputation of the training program is very good, rotating you through different areas so that you have a better idea of what you want to do as a permanent position. I rotated assignments (and locations) in my co-op job and the divisions I wanted to work for were not hiring at the time. I feel I made the right choice and have not regretted it, nor do I regret working for the company I co-oped with. It was a great experience.

2. "Better opportunities" with new employer, better chance for promotion, upward mobility with new company and movement within the company.

- Better opportunities, more exposure to people and applications, money.
- Changed job for better assignment.
- The company I co-op for was very small and did not offer much of a future.
- Salary, benefits and opportunity.
- To join a company which is more "state of the art" and better benefits.
- Did not want to work for co-op employer because it was a utility and too bureaucratic. Wanted a large company with well known name for first permanent job.
- Co-op employer did not offer a job I was interested in. I also had better job offers from other employers.
- No opportunity for advancement at co-op workplace.
- Larger corporation with international potential, opportunities, as well as more opportunities locally.
- Employer offered opportunities in manufacturing while most jobs available with former co-op employers were in design engineering.
- I wanted a new experience, a different type of job, and to meet new people. Most of all I felt the new organization provided better long term benefits as far as my career is concerned over that of my former co-op employer.
- There is more room to improve and grow at this job.
- Better opportunity. Wanted to get into sales and out of financial analysis.
- Job location and level of technology at my current job.
- Greater opportunity for advancement. Higher wages.
- Insufficient pay scale/little upward mobility at co-op employer. Wanted to leave Ohio.
- Larger private corporation than those during co-op. Allows movement within the same company.
- Type of work, money, area.
- Better employment opportunities.

- Present employer offers good salary and benefits. Opportunity to different kinds of work within company.

- A formal training program was offered at G.E. (Financial Management Program) and lack of opportunity at co-op employer.

- The nuclear industry, though offering a considerable amount of great experience, did not have a very good future.

- 1. Wanted to change geographic location.
  2. Employment situation of co-op employer would not have been stable.

- The co-op experience was only for a package test contractor not a steady full time job with a major corporation.

3. Better pay, benefits:

- Present employer offers good salary and benefits opportunity to different kinds of work within the company.

- Pay scale for former co-op employer very low, Company only employed 50 people.

- They didn't offer enough money and the work was not what I wanted for a career.

- Economic condition did not enable to return to my previous employer.

- My Co-op experience in California, which I enjoyed very much, but one of my near-future goals is to buy a house and that would have been impossible in California. I chose a job with attributes as close to my co-op job as possible but not in California.

- Better pay and more work responsibility.

- Type of work, money, area.

- My interests changed furing graduate work. Also, the pay is better.

- Greater opportunity for advancement. Higher wages.

- Insufficient pay scale/little upward mobility at co-op employer. Wanted to leave Ohio.

- Money $

- Change in management. Salary considerations. Joined GE MMP* Program for various assignments in different fields and greater advancement potential.
  *Manufacturing Management Program

- 1) The reputation of the financial management program 2) Salary offer 3) Advise of professors and friends 4) Interview process (not in any order of importance)
- Salary, benefits and opportunity
- To join a company which is more "state of the art" and better benefits.

---

4. New job is more consistant with skills, interests, talents, etc..., goals, bad placement.

- My co-op employment involved field service to manufacturers across the country, upon graduateion I preferred a more permanent location for employment.
- Co-op positions while good experience and interesting were not in the right field or communications field.
- My co-op job was not directly related to my field. Therefore I had to search for employment upon graduation.
- Much more challenging work.
- Did not want to work for co-op employer because it was a utility and too bureaucratic. Wanted a large company with well known name for first permanent job.
- 1) The reputation of the financial management program 2) Salary offer 3) Advise of professors and friends 4) Interview process (Not in any order of importance)
- The organization offered sound work in the field of which I was most interested: Consumer electronics.
- Co-op employer did not offer a job I was interested in. I also had better job offers from other employers.
- Extremely security oriented to the point that it was detrimental to production. Bad location geographically.
- I co-oped with the Federal Government and wanted to learn about private industry.
- Co-op experience was in the field of power distribution and appartus evaluation. For after graduation employment I desire more electronics related work.
- Co-op positions, while good experience and interesting, were not in RF or communications field.

- The companies I co-oped with weren't involved with my major. G. E. is very good company to work for.
- I worked for a power company. The technology there was low level (power systems). I decided to work in High Technology Electronics.
- The job market in my career choice (Chem. Eng.) was very soft at graduation so I chose this to carry me till the market improves.
- I wanted a research oriented job (co-op job was design and applications oriented).
- My interests changed during graduate work. Also, the pay is better.
- Better pay and more work responsibility.
- I was not satisfied with the type of work and opportunities available with my co-op employer.
- They didn't offer enough money and the work was not what I wanted for a career.
- Co-op jobs were not related too much to college major. They were not appealing. New organizations offered many interesting work areas.
- I didn't feel like my co-op experience was related to my skills. Poor placement in our college placement office.
- I did not like the type of work that my co-op employer performed.
- Because the cooperative education people (that is those with placement) were very unhelpful in my placement. I would have preferred to have in an organization similar to the one I'm presently in.

5. Geographic location, job location:

- My co-op experience was in California which I enjoyed very much, but one of my near-future goals is to buy a house and that would have been impossible in California. I chose a job with attributes as close to my co-op job as possible but not in California.
- Did not like geographic location. They were not hiring at the time of my graduation.
- Geographic location and opportunity.
- I got married soon after graduation and my spouse did not want to live in the area where my co-op employer was.
- Job location and level of technology at my current job.
- I was interested in specific geographic location, due to family.
- I wanted to stay in New York, my co-op employer wanted me to move.

- Extremely security oriented to the point that it was detrimental to production. Bad location geographically.

- My wife enrolled in a doctoral program at a local university and I continued my education at R.P.I. hences we chose to remain in the Albany, New York area.

- I liked the Syracuse area and my fiance, now my husband, had co-oped at this company and wanted to come here. Also I co-oped in Rochester, New York and I did not want to work downtown there.

- Type of work, money, area.

- 1. Wanted to change geographic location
  2. Employer situation at co-op employer would not have been stable.

---

6. G. E. Training Program:

- Change in management. Salary considerations. Joined G.E. MMP* program for various assignments in different fields and greater advancement potential.
  *Manufacturing Management Program.

- G. E. offered chem-met program, co-op employer did not. G. E. invested more in new hires. Job seemed more interesting.

- A former training program was offered at G.E. (Financial Management Program) and lack of opportunity at co-op employer.

- The company I'm with now has an excellent training program with a chance to get a Masters. I had decided to get to grad school before I found it. My co-op employer does not have a program. I also wanted to break out of the co-op image.

- I interned 2 quarters in financial acc/systems. Interface at a smaller (250 mi/sales) firm and G.E. offered a Management Training program that interested me -- The pay was similar, but, responsibilities were not.

APPENDIX K

TABLE K-1

Means, Standard Deviations and Coefficient Alphas for Scales - Company B

(n=140)

Scale	Number of Items	Mean	Standard Deviation	Coefficient Alpha
Expectations	3	3.80	1.18	.57
Congruence	2	3.13	1.57	.67
Commitment	9	4.89	1.20	.92
Relevance	6	6.82	1.51	.87
Resources	11	3.07	.54	.85
Participation	6	3.80	.76	.83

TABLE K-2

Intercorrelations Among Intermediate and Outcome Variables and Covariates - Company B

Variables	2	3	4	5	6	7	8	9	10
Expectations	.15*	.18*	.27**	.01	.14	-.18*	-.10	.22**	.22**
Congruence	--	.60**	.53**	.12	.03	-.06	.10	.44**	.31**
Relevance		—	.64**	.14	.05	.01	.02	.43**	.36**
Commitment			—	.13	.14	-.11	-.01	.55**	.43**
Undergrad Work				--	.13	.03	.16*	.08	.11
Prior Work					—	.08	.01	.13	.13
Months with Company						--	.23**	-.02	.01
Number jobs							--	.03	.01
Resources								--	.57**
Participation									--

*p <.05

**p <.01